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PROCEEDINGS

OF THE

SPECIAL COMMITTEE APPOINTED TO INVESTIGATE

MR. H. D. LUMSDEN'S CHARGES

REGARDING A PORTION OF THE ENGINEERING STAFF ON DISTRICTS 'B' AND 'F' OF THE NATIONAL TRANSCONTINENTAL RAILWAY

(Revised Edition)

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY C. H. PARMELEE, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1910

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ORDER OF REFERENCE

HOUSE OF COMMONS,
THURSDAY, January 27, 1910.

Whereas it appears by a return made to this House during the present Session, being Sessional Paper 42*a*, that Mr. Hugh D. Lumsden, late Chief Engineer of the National Transcontinental Railway, in a letter dated 25th June, 1909, addressed to the Commissioners, resigning his position as such Chief Engineer, uses the following language: "In view of the general disregard of my instructions, and having lost confidence in the engineering staff, I have concluded to resign my position as Chief Engineer"; and in a second letter, dated 26th June, 1909, addressed to the Commissioners, the said Hugh D. Lumsden writes as follows: "Referring to my letter of yesterday, wherein I stated that I have lost confidence in the engineering staff, I beg to state that this does not apply to the whole staff, but applies only to a portion of the staff, who were responsible for the measurement, classification, supervision and inspection of considerable portions in District 'B' and east of Rennie Crossing, in District 'F,' lately gone over by me";

And whereas, while this House deems it not desirable to take any action which might prejudice the position of either of the parties to the arbitration proceedings now in progress between the Grand Trunk Pacific Railway Company and the said Commissioners, yet the said recited allegations of said Hugh D. Lumsden, stated by him as the reasons for his resignation of the said position of Chief Engineer, are, in the opinion of this House, of such great public interest and involve such grave charges against a portion of the engineering staff of the Transcontinental Railway as to make it desirable that the same should be investigated by a Committee of this House;

Therefore, it is resolved, That a Special Committee of five members of the House, to be named hereafter, be appointed to investigate the said charges and allegations of the said Hugh D. Lumsden against a portion of the said engineering staff of the said railway; that such Committee have power to send for persons, papers and records, to examine persons on oath or affirmation, and to report from time to time.

Attest.

THOS. B. FLINT,
Clerk of the House.

THURSDAY, February 3, 1910.

Ordered, That the said Committee be composed of seven instead of five members, viz.:—

Messrs. Geoffrion,
Macdonald,
Clarke (Essex),
Wilson (Laval),
Lennox,
Barker, and
Crothers.

Attest.

THOS. B. FLINT,
Clerk of the House.

FRIDAY, February 18, 1910.

Ordered, That leave be granted the said Committee to sit while the House is in session.

Attest.

THOS. B. FLINT,
Clerk of the House.

TUESDAY, Feb. 22, 1910.

Ordered, That leave be granted the said Committee to have their proceedings and any evidence taken by them printed from day to day for the use of the Committee, and that Rule 72 be suspended in reference thereto.

Attest.

THOS. B. FLINT,
Clerk of the House.

WEDNESDAY, February 23, 1910.

Ordered, That leave be granted the said Committee to employ counsel for the purpose of assisting them in the investigation of the matters referred to them.

Attest.

THOS. B. FLINT,
Clerk of the House.

REPORTS OF THE COMMITTEE

FIRST REPORT.

FRIDAY, February 18, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden against a portion of the engineering staff of the National Transcontinental Railway beg leave to present the following as their First Report:—

Your Committee recommend that leave be granted to them to sit while the House is in session.

All which is respectfully submitted.

VICTOR GEOFFRION,
Chairman.

SECOND REPORT.

TUESDAY, February 22, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden against a portion of the engineering staff of the National Transcontinental Railway beg leave to present the following as their Second Report:—

Your Committee recommend that their Proceedings and any Evidence taken by them be printed from day to day for the use of the Committee, and that Rule 72 be suspended in reference thereto.

All which is respectfully submitted.

VICTOR GEOFFRION,
Chairman.

THIRD REPORT.

WEDNESDAY, February 23, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden against a portion of the engineering staff of the National Transcontinental Railway beg leave to present the following as their Third Report:—

Your Committee recommend that leave be granted to them to employ counsel for the purpose of assisting them in the investigation of the matters referred to them.

All which is respectfully submitted.

VICTOR GEOFFRION,
Chairman.

FOURTH REPORT.

TUESDAY, March 22, 1910.

The Special Committee appointed to investigate the charges and allegations made by Mr. Hugh Lumsden against a portion of the Engineering Staff of the National Transcontinental Railway beg leave to present the following as their Fourth Report:—

As they find it desirable for the convenience of all the parties concerned in the inquiry not to hold any further meetings for the taking of evidence until the 31st March instant, your Committee in pursuance of the power of reporting from time to time, conferred upon them by their Order of Reference, beg to submit herewith the Minutes of the Proceedings from the 16th day of February, the date of their first meeting, to the 31st day of March, both inclusive, together with the Minutes of Evidence taken by them at the sittings mentioned in such proceedings.

VICTOR GEOFFRION,
Chairman.

FIFTH REPORT.

WEDNESDAY, April 27, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden, against a portion of the engineering staff of the National Transcontinental Railway beg leave to present the following as their Fifth Report:—

Your committee met for organization on the 16th day of February last past, when Mr. Geoffrion was elected chairman. Numerous sessions have since been held; the printed record of the proceedings at such sessions is herewith submitted. Pursuant to summons Mr. Lumsden appeared before the committee at its meeting on the 2nd day of February, and stated that it was not his intention to be represented by counsel. He was several times at different sessions asked by the chairman and other members of the committee if it was still his desire not to be represented by counsel and he persisted in such desire. (See pages 62, 65 and 91). And at the meeting of the committee on March 8 he was again asked the same question and informed that he would be at no expense for counsel, which he stated had been his understanding. (P.135). In view of Mr. Lumsden's attitude, your committee obtained leave from the House to employ counsel for the purpose of assisting them in the investigation of the matters referred to them. Mr. F. H. Chrysler, K.C., was accordingly appointed and Mr. Lumsden agreed to communicate with him and give him all the information possible bearing upon the matter. Mr. R. C. Smith, K.C., appeared on behalf of the Board of Commissioners of the National Transcontinental Railway and Mr. J. H. Moss, K.C., on behalf of the engineers named by Mr. Lumsden as those in whom he had lost confidence.

The order of reference bearing date the 27th January, 1910, (p. 5) directed to your committee to investigate certain charges and allegations made by Mr. Lumsden in his letter of resignation dated 25th June, 1909, as modified by his letter of 26th June, expressed in the following sentence: 'In view of the general disregard of my instructions and having lost confidence in the engineering staff, I have concluded to resign my position as chief engineer,' and :—'referring to my letter of yesterday wherein I stated that I have lost confidence in the engineering staff I beg to state that this does not apply to the whole staff but applies only to a portion of the staff who were responsible for the measurement, classification, supervision and inspection of considerable portions in District 'B' and east of Rennie's Crossing in District 'F' lately gone over by me.'

In view of the indefinite nature of these statements Mr. Lumsden was requested to amplify and give further details of his allegations, and a further statement in writing was produced by him and filed as Exhibit No. 1 (p. 71) and also a list of the various stations, inspection of which, together with the statements made in his presence by certain of the engineers during the visit of the first board of arbitrators, had as he stated caused his loss of confidence in a portion of the engineering staff. (Ex-

hibit No. 2, pp. 73 and 79). He also filed a partial list of the names of engineers inteded to be implicated in his charges as Exhibit No. 3, (p. 92) and a copy of what purported to be depositions of certain engineers examined before the board of arbitrators during the course of their visit (Exhibit 3A, p. 92). These depositions were not admitted to the record by the committee as having the force of evidence, but as being the statements which Mr. Lumsden swore at the time of their production were those made in his presence which has influenced him in resigning. Mr. Lumsden when questioned as to the statements in these depositions, to which he attached importance referred to but two or three, and it appeared to your committee from subsequent evidence that the engineers answered to questions put to them had not been fully or correctly transscribed.

At the inception of the hearings before the committee, Mr. Lumsden stated that he appeared only as a witness and that he did not impute any bad faith to any of the engineers and that the issue was simply a difference between engineers as to classification.

From the whole of the evidence taken before your committee and especially that of Mr. Lumsden himself, that the substantial reason for the difference between Mr. Lumsden and the engineers under him, arose concerning interpretation of clauses 34, 35 and 36 of the specifications, which read as follows:—

Solid Rock Excavation.

34. Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

Loose Rock.

33. All large stones and boulders measuring more than one cubic foot, and less than one cubic yard, and all loose rock whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials, that cannot, in the judgment of the engineer, be ploughed with a ten-inch grading plough behind a team of six good horses, properly handled, and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'loose rock.'

Common Excavation.

36. Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.

36A. No classification other than of common excavation will be allowed on material from borrow pits, except by order in writing of the engineer.

It is to be observed that the language of these clauses, as pointed out by several of the engineers examined and admitted by Mr. Lumsden differs from that used in corresponding clauses in the specifications used in earlier railway construction, with which Mr. Lumsden was familiar. The real difference between Mr. Lumsden and the engineers under him arose in connection with the classification of the peculiar geological formation met with in very large quantity upon portions of Districts 'F' and 'B' consisting of clusters of boulders of varying sizes solidly cemented together in masses, which according to the absolute consensus of testimony (including that of Mr. Lumsden) could not have been removed except by continuous blasting.

This difference of opinion developed at a very early stage of construction. The resident engineers, to whom the duty of classification as the work proceeds, is committed returned this material as solid rock, and in this had the approval of their immediate superiors, the division and district engineers.

While Mr. Lumsden states in his evidence that he was dissatisfied with the classification, he continued approving and certifying the monthly estimates based upon this classification. He was, however, eventually compelled to take some action by the receipt of a letter from Mr. H. A. Woods, assistant chief engineer of the Grand Trunk Pacific Railway Company, of date the 7th October, 1907, fyled as Exhibit No. 10 (page 148) in which he complained of the classification of material on District 'B,' particularly with reference to an alleged over-return of solid rock.

Inasmuch as the rental payable by the Grand Trunk Pacific Company to the Crown is based upon a percentage of the actual cost of construction, that company has of course a direct interest in minimizing that cost, and the evidence shows that the company exercised fully its rights under the contract of maintaining engineers upon each district for the purpose of careful surveillance. These engineers had full access to the work as it proceeded, as also to the records of the commissions' engineers, and were fully conversant with the methods of classification in vogue.

In his letter above referred to of October 7, 1907 (Exhibit No. 10) Mr. Woods made the following statement:—

> In nearly every case where the cuttings were not entirely all ledge, the estimate given for solid rock is double or more than double what it should be. In fact the specifications had been entirely ignored and an excessive allowance made not by reason of an error in judgment but as I understand, by special instructions from the assistant district engineer.

And:—

> 'As before stated these over-classifications are not made through error of judgment, nor upon the decision of the resident or division engineers, who are fully acquainted with the character of the work, but by arbitrary orders from their superior.'

This charge in Mr. Woods' letter engaged the very careful attention of your committee, but it was established that Mr. Woods withdrew the statement during an interview held at La Tuque on the 25th October, 1907. Mr. Lumsden in his letter of October 30, immediately after the La Tuque interview says:—

> 'It appears Mr. Woods must have been in error when he stated that 'the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in the judgment, but, as I understand, by special instructions from the assistant district engineer,' or, as stated by him in the latter part of his letter, by arbitrary orders from their superior.' (Exhibit No. 13, p. 151.)

And when questioned respecting the La Tuque interview Mr. Lumsden said:—

> Q. Did he not in the presence of all those gentlemen make a pretty full withdrawal of it?—A. He retracted it. My recollection is he retracted that statement altogether.
>
> Q. And so far as you are concerned, and as far as your knowledge of your engineers is concerned, are you able to say whether there was a tittle of truth in Mr. Woods' charge that the classification had been made by arbitrary instructions from superiors?—A. No, I don't know anything of any such instructions.
>
> Q. Do you believe that any such were ever given?—A. No, I can't say that I do.
>
> Q. Have you any reason to suspect that any such were ever given?—A. I can't say there were. (P. 225).

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Mr. A. E. Doucet, the district engineer of District 'B,' not only confirmed Mr. Lumsden's statement that Mr. Woods had withdrawn the charge, but added that Mr. Woods had agreed to confirm the withdrawal in writing (p. 570). Other engineers gave evidence to the same effect. Mr. Woods was summoned before the committee and stated in corroboration of Mr. Lumsden and Mr. Doucet that he had withdrawn the statement.

After the meeting at La Tuque above mentioned the whole question of interpretation of the specifications upon which Mr. Lumsden and his subordinary engineers had differed was considered by a number of the leading counsel of the Dominion, viz:—Sir Alex. Lacoste, for many years chief justice of the Province of Quebec; Wallace Nesbitt, K.C., formerly a judge of the Supreme Court of Canada; G. F. Shepley, K.C., E. Lafleur, K.C., C. H. Ritchie, K.C., S. Beaudin, K.C., and Donald MacMaster, K.C. Every one of these counsel, without hesitation or qualification expressed the opinion that the interpretation upon which the resident division and district engineers had proceeded in their classification was the true one, and as a consequence that the opinion that Mr. Lumsden maintained was untenable. The interpretation of Mr. Doucet and the other engineers under Mr. Lumsden, is found in their letters, Exhibits No. 42 and following (p. 232 *et seq*), and the opinions of counsel are fyled as Exhibits No. 47 and following (p. 245 *et seq*). From a perusal and comparison of these letters and opinions, it will be seen that every one of the high legal authorities above named, confirmed in a very positive manner the views of these engineers, viz: That 'rock in masses' meant rocks cemented together in masses of over a cubic yard (even though the individual rocks should be less) which in the opinion of the engineer could only be removed by blasting.

As a result of these opinions, and after the opinion of the Deputy Minister of Justice had been written to the commissioners (p. 159), Mr. Lumsden on January 9, 1908, made a formal written interpretation of the clauses of the specifications in question, accompanied by a blue print of a drawing illustrating the interpretation (p. 159). In this he said:—

> I am of the opinion that rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum pudding stone), boulders or ledge rock displaced (in pieces each exceeding one cubic yard in size), rock assembled, also shale rock, such as in the judgment of the engineer may be best removed by blasting.
>
> Above the diagram in the blue print indicating asembled rock are the words:
>
> 'Rock in masses of over 1 cubic yard (assembled rock) which in the judgment of the engineer can be best removed by blasting.
>
> And at the foot of the blue print are these words: 'To form a judgment, &c.—'

Mr. Lumsden's view had been that 'rock in ledges or masses' meant ledge rock *in situ* or masses of detached ledge rock measuring a cubic yard. On page 229 of his evidence he says: 'It is the word 'mass' that bothers me.'

> Q. It is a troublesome word, isn't it? Isn't it really the troublesome word in the whole thing —A. The word 'mass' as I understood it in the specifications, and do still, referred to masses of rock which were not boulders, but had been detached from the ledge.
>
> Q. And your opinion was that it meant masses of solid rock?—A. Of rock, solid rock.

Notwithstanding his formal interpretation, he seems in his mind to have clung to his original opinion, as is apparent from his evidence found on (p. 250.)

> "A. Well, I think the word "masses" referred to rock that was not boulders, but masses of detached ledge rock.
>
> Q. I understand that you modified that view, though. That was your view

in October, 1907, but you don't adhere to it to-day?—A. I adhere still that masses may refer and were intended to refer to detached pieces of ledge rock.

Q. But I suppose you would be willing to extend that somewhat?—A. I have extended it in my subsequent interpretation to a mass of rock which was, I suppose, about two-thirds rock at any rate, or something like that, two-thirds rock and cemented material.

Q. You subsquently admitted that view, that it meant masses of detached ledge rock would be untenable? You have conceded that?—A. I have conceded it, but more on account of seeing and reading and going over these.

Q. Now, that is very instructive?—A. That there might have been a misunderstanding.

Q. I think it is fair to us, if you still adhere to your original view, that you should tell us: now, do you or do you not? Was your real opinion influenced or changed by perusing the opinions of counsel or others?—A. Well, between the opinions of counsel and the opinions of the engineers, and my consultation with Mr. Schreiber, I did conclude to change that part of it referring to solid rock.

Q. You say you concluded to change?—A. Yes.

Q. But opinions are really not a matter of choice or volition, are they? Were you convinced?—A. I know what I understood in the first instance when the specification was made, that it was nothing but rock.

Q. So that really, while out of deference to the numerous other opinions expressed, you may have consented to modify your expressed opinion, in reality you are like a woman, convince her against her will, she holds the same opinion still; isn't that true?—A. Yes, I held that opinion at the first start until I consulted with Mr. Schreiber and saw the different views taken by the learned counsel and engineers, and I modified it to the extent, as you know, in my subsequent—

Q. But still feeling down deep in your consciousness that your first view was the true view?—A. Well, my first view was the one—when that first interpretation was made, I certainly understood it to be all solid rock."

Your committee need not at this point discuss whether Mr. Lumsden's view of the specifications was in fact correct or not, as this is a mixed question of law and of engineering opinion; but there can be no question that Mr. Lumsden's written interpretation seemed to accord with the views which had been expressed by his district engineers and by the legal opinions referred to, and which have been acted upon by the engineers in their classification.

The interpretation, drafted as it was by Mr. Lumsden and illustrated by the accompanying blue print, was submitted to the Commissioners and accepted by them, and was subsequently submitted to the Assistant Chief Engineer of the Grand Trunk Pacific, Mr. Woods, and his letter approving of the same, found on page 281. This interpretation was officially communicated by Mr. Lumsden to the district engineers under him, and a conference was arranged by Mr. Lumsden at his office in Ottawa, at which the district engineers appeared, and Mr. Lumsden then further modified his interpretation and instructions regarding measurement of this massed material by adding to his letter the following:—

In short, actual measurement shall be made of all classified material returned, and not by percentages, except in cases where remeasurements are impracticable in the judgment of the engineer in charge. (Exhibit 32, page 192.)

The uncontradicted evidence and especially that of Mr. Lumsden himself, shows that no engineer was appointed by the Commissioners except upon the recommendation of Mr. Lumsden himself. There has not been, in the whole course of the inquiry, a suggestion that the appointment of any engineer was imposed on Mr. Lumsden, or that the Commissioners ever declined to give effect to any recommendation of Mr. Lumsden for the dismissal of any engineer. All the engineers in whom Mr.

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Lumsden declared, in his letter of resignation, that he had lost confidence were appointed by the Board of Railway Commissioners upon his own recommendation in writing, as will be seen on reference to Exhibits Nos. 31, 32 and 33, pages 191, 192 and 193.

Mr. Lumsden, as Chief Egnineer, was therefore responsible for the engineers under his charge, and he had such absolute control over them as the Chief Engineer in such works always has.

Moreover, Mr. Lumsden, under the terms of the contracts between the Commissioners and the contractors, was clothed with absolute authority in dealing with the contractors, it being provided that:—

> All instructions or certificates given, or decisions made by any one acting under the authority of the Chief Engineer shall be subject to his approval. (Page 189.)
>
> In all cases where the contractor or the Commissioners are dissatisfied with the decision of the engineer or inspector in immediate charge of the work, an appeal to the Chief Engineer may be made.

And by Clause 15 it was provided:—

> That the Engineer shall be the sole judge of the work and material in respect of both quality and quantity and his decision in all questions in dispute with regard to work or material shall be final.

He was thus constituted the supreme authority upon the whole work. There was in the contracts (Clause 39) the further provision that:—

> The progress measurements and progress certificates shall not in any respect be taken as binding upon the Commissioners, or as final measurements, or as fixing final amounts; they are to be subject to the revision of the engineer in making up his final certificate, and they shall not in any respect be taken as any acceptance of the work or release of the contractor from responsibility in respect thereof, but he shall at the conclusion of the work deliver over the same in good order, according to the true intent and meaning of this Agreement.

The commissioners had further security provided in the drawback of a ten per cent of the progress estimates under Clause 34, together with a lien upon all the plant, material and machinery belonging to the contractors. The amounts payable under the contracts and even the progress estimates themselves, together with the quantities and classification, were thus subject to the absolute and final revision and decision of Mr. Lumsden as Chief Engineer.

Notwithstanding that Mr. Lumsden was thus vested with the full control of his engineering staff and the full direction of the work as it progressed, it is to be observed that he never made any complaint whatever to the commissioners of any engineer, nor did he ever give to the commissioners so much as a hint that he had begun to lose confidence in any of the engineers upon the staff. Mr. Lumsden occupied an office in Ottawa with the commissioners and it appears extraordinary that the first word of complaint against his engineers should come in his letter of resignation. He himself attributes his loss of confidence in the engineering staff to what he saw and heard upon the tour of inspection with Mr. Schreiber and Mr. Kelliher who went with him for the purpose of an arbitration under the provisions of Clause 7 of the agreement between the commissioners and the Grand Trunk Pacific Railway to which it will be necessary to make some further reference. But Mr. Lumsden in his letter of September 24, 1907 (Ex. 8, p. 145) expressed dissatisfaction with his position as chief engineer, upon the grounds that the Commission differed from an ordinary railway corporation inasmuch as its powers were limited by the Act, and they had not the same freedom of action to meet difficulties as they arose in the construction of the work; that his salary was inadequate, and that the magnitude of the work subjected him to strain and worry. In that letter Mr. Lumsden says:—

Personally, I feel that matters are so different under a government commission, whose powers are limited by the Act, from what they had previously been under a corporation who could act on their own initiative and take the responsibility of making such modifications in contracts as now suggested by me in just such difficulties as are now being experienced in District 'F' that unless some relief can be given, the strain and worry connected with my present position is more than I can stand, especially as the salary is not in proportion to the responsibility involved.

It is difficult for your committee to present in succinct form the substance of the evidence taken with regard to the trip of inspection by Mr. Lumsden and the other arbitrators upon which he says he acquired the information which led to his resignation. He with the chief engineer of the Grand Trunk Pacific and Mr. Schreiber were appointed to arbitrate certain differences in cuts, which had been specially indicated in Mr. Woods' letters. Their whole tour of inspection on District 'F' lasted from the 22nd May to the 5th June, 1909; and from the evidence of Mr. Lumsden himself his inspection appears to have been of the most cursory and superficial character. There were hundreds of rock cuttings, many of which had taken from six to fifteen months to make and in which the classification had been made by resident engineers on the ground who actually saw the material removed from week to week; and Mr. Lumsden, upon walking through a cut, the slopes of which had naturally undergone considerable changes, as explained by a number of the engineers examined before the committee, undertook by mere guess work to condemn the original classification and to determine what it ought to have been. The method of doing so, according to Mr. Lumsden, was that he and Mr. Kelliher would average their guesses, or, where they failed to agree upon this, they asked the opinion of Mr. Schreiber and the notes in Mr. Lumsden's diary represented as a general rule what, as he himself states, he was 'willing eventually to put down,' (p. 400).

The engineers on the ground were not only not invited to give any explanations of their work, but were given to understand that no explanations were desired. On this point Mr. Lumsden's evidence is as follows (p. 485):—

Q. I think you told us already that it was intimated to Mr. Poulin that he was not wanted to interfere, that the engineers were not allowed to say anything? —A. There was to be no discussion on the work.

Q. That was the scheme?—A. Yes.

Fragmentary depositions which were taken and which had been fyled by Mr. Lumsden, were taken away from the work and without the engineers having any opportunity of referring to their notes or records.

Mr. Lumsden did not take measurements and in very few instances, indeed, did he cause any diggings to be made into the sides of the slopes; and these according to the evidence of the engineers were quite inadequate to give any indication of the character of the material behind the face of the slope. It was established conclusively that the face of the slopes of the cuttings changes very rapidly after their completion and that it was impossible to form any accurate idea of the nature of the material from such a cursory examination; in fact Mr. Lumsden had taken this position in a previous letter to Mr. Woods, of date May 15, 1908, (p. 292), in which he says:—

What I mean is this, that if, on examining work, say a cutting practically finished, I thought the classification appeared to be excessive, I would not be prepared to ignore the classification made by the engineer who had seen the work from day to day and state what the classification should be, without being able to verify my own ideas by actual measurements and observations of material found beyond the slopes of the material taken from such cutting which would necessitate the digging out sections of embankments or waste where the material has been deposited. This would take considerable time, but would give a good idea

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of any great excess of solid rock or other classified material that might have been returned in such cutting.

Similar statements are found in several of his letters and throughout his evidence.

The same method was pursued by him on district 'B.' He went over 150 miles, the whole tour of inspection being made between June 16 and June 22, 1909. No measurements were taken and only one small digging was made.

At the conclusion of the trip on District 'B' letters of protest against the manner in which the inspection had been conducted were written to the Commission by district engineer Poulin of District 'F,' (found on p. 483, Ex. No. 73); by District Engineer Doucet, of District 'B' (p. 488 Ex. 74); and by Mr. Heustis, assistant district engineer of District 'B' (p. 487 Ex. 79). These letters were read clause by clause to Mr. Lumsden and admitted by him to give a substantially accurate account of what was done. (See testimony of Mr. Lumsden as to Poulin, p. 485-488; as to Doucet, p. 491, 492; as to Heustis, p. 516-519).

Mr. Lumsden's evidence on this point is as follows:—

Q. Do you or do you not think that this trip furnished sufficient data, as Mr. Poulin puts it, to justify a re-classification of the work?—A. I think from what I know, if I was doing it again I would get fuller information on the ground.

Q. Very much fuller?—A. Well, I could.

Q. If you were doing it again you would take a different procedure; you would examine the engineers more fully on the ground?—A. That is what I mean.

Q. And investigate into the reasons for the different classifications. Anything that struck you as requiring explanation, you would ask for an explanation on the spot? Is that so?—A. To a certain extent that is so.

Q. In other words if you were doing it again, you would conduct it or see that it was conducted somewhat more sympathetically with the work; that is to say, you would not allow the board to maintain such a remote attitude towards those in charge of the work and you would get more in touch with them and find out what they had been working in their minds, and what they had been doing?—A. I think it would be better if we had done so. I say that.

It is obvious that such information as Mr. Lumsden acquired on these trips was quite insufficient to justify him in losing confidence in his engineerng staff or even in subjecting them to criticism without further investigation.

There were in all four questions upon which Mr. Lumsden says he differed from the classification of his engineers, the principal as before stated, being in the classification of massed material, or assembled rock, as Mr. Lumsden called it in his interpretation. The blue print accompanying his interpretation gave no dimensions, nor yet the proportion of rock or boulders necessary in the mass to constitute assembled rock; and it is quite apparent that there was reasonable ground for difference of opinion both as to the clauses of the specifications themselves, as shown by the radical difference between Mr. Lumsden and all the counsel and other engineers who expressed opinions upon the clauses, and also as to the meaning of Mr. Lumsden's interpretation. Another difference of opinion was with respect to what is termed 'overbreak' or the rock displayed beyond the theoretical slopes in a cut. According to the specifications this was to be paid for if it was caused unavoidably, but was not to be paid for if caused negligently by the use of excessive blasts. Mr. Lumsden, in common with all the engineers, admitted that a certain amount of breaking away behind and beyond the theoretical slope in rock cuttings is quite inevitable, and that it will vary to some extent according to the character of the material and other circumstances. As Mr. Lumsden stated this overbreak is a very small item indeed on District 'B' and in District 'F' if any errors in the return of solid rock have been made owing to undue allowance for overbreak, that is a matter which can be readily adjusted by engineers,

and according to the evidence of Mr. Grant, the present Chief Engineer, it is now under investigation. There is no suggestion anywhere in the evidence that any excessive overbreak had been intentionally returned.

Another item referred to in Mr. Lumsden's statement was the return of frozen material as loose rock. Mr. Poulin, the district engineer of District 'F.' was appointed after the time within which the contract was to have been completed had expired, and his instructions from Mr. Lumsden were to hasten the work of construction as rapidly as possible. The season of summer work was short, and certain material was returned as loose rock which had been removed while frozen solid. Mr. Lumsden, however, several times during the course of his evidence stated that he made no charge with respect to frozen material, and notably on page 334.

There is also some question about the allowance of indurated material in borrow pits near Wabigoon as loose rock. This was reported to Mr. Lumsden by Mr. Poulin at the time of its classification without objection from him, and the evidence appears to establish that the classification of this material was correctly made in accordance with engineering practice. In any event the item is small in amount.

Another ground of complaint was that the engineers had classified massed material by percentages instead of by actual measurement. In the letter of instructions of Mr. Lumsden, already referred to, of January 30, he distinctly excepted from his order that measurements should be made in all cases where measurements was impracticable. The evidence shows that actual measurements have in all cases been made of the total quantities of material moved, and also actual measurements of all ledge rock. It appears that in certain cuts the massed material occurred in very irregular formations, and it was found by the engineers impossible to measure accurately the quantities of material which should be returned as assembled rock. In such cases measurement by percentage, as authorized by Mr. Lumsden was resorted to and the evidence establishes that this had been the practice on other railways, and is in accordance with the best engineering methods. In fact all the engineers examined declared upon oath that no other means of classification of such material is known to engineering science.

These questions are all questions of engineering opinion, and do not involve in the aggregate a very serious amount; the returns and progress estimates are all subject to revision, the commissioners being far more than amply protected by the security held by them.

As regards the alleged over-classification of assembled rock, Mr. Gordon Grant, who has had the advantage of making a personal inspection of the road spoke of it as a tempest in a teapot. (p. 535).

In view of the increase in the cost of the road over the preliminary estimates, your committee thought it proper to inquire carefully whether this was in any appreciable degree attributable to over-classification. The first estimate attributed to Mr. Schreiber in 1903 was previous to any surveys whatever having been made, and was simply a rough estimate of what it might probably cost to build through such a country. The later estimates of quantities printed on page 5353 of *Hansard* (Mch. 11, 1910) and reprinted on p. 548 of the Proceedings before this Committee contained in the first, third and fifth columns was compiled for the purpose of enabling the commissioners to appreciate the tenders of the contractors, or, as it is commonly called, to 'moneyout' the tenders, and was in many cases based upon preliminary lines which were subsequently very materially changed, and which did not include a number of items entering into the cost of construction. These figures were not communicated to the contractors tendering but were intended solely as a guide to the Commissioners in determining which were the lowest tenders according to the prices asked for different classes of material in each tender. As he stated above, they were based to a considerable extent upon preliminary lines, that is, the first projected lines of surveys. These lines were superseded by the revised location, and these again by the final location, and as Mr. Lumsden says, even the final location was in many

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places materially changed, which he says would account for a great deal of difference in the cost. The actual quantities found were in cases totally different from those estimated. There was no estimate made in these figures for train haul. Another very important item was that a large amount of side-hill work was encountered, a notable example being some twenty miles upon the St. Maurice river, where the whole side of the hill, 150 feet high, required to be removed, increasing the cost by at least four or five times the amount estimated. At La Tuque it was necessary, in order to obtain the required grade to make a detour of some six miles. There was no estimate for carrying rock cuttings one foot below grade. In addition to these there are several items set forth in the evidence of Mr. Doucet, pages 559 and 560, and in the comparative statements prepared by Mr. Doucet and Mr. Poulin, filed as Ex. No. 100, p. 604, and as Exhibit No. 111, p. 679.

The estimate of $114,000,000 was subsequently compiled by Mr. Lumsden from the reports of his assistant engineers, and as appears by the evidence was incomplete, but according to the evidence of Mr. Grant will not be exceeded in the actual cost to any great extent. Mr. Grant says, 'there will be no great difference between the actual cost and the $114,000,000 estimate' (p. 540) exclusive of terminals and other items which were not included in the estimate.

At an early stage of the proceedings Mr. Lumsden indicated that the only difference between him and the engineers under him was one of professional opinion.

Mr. Lumsden was repeatedly asked whether he had any reason to suspect the good faith of the engineers acting under him, and he very frankly stated that it was merely a difference of opinion between them, and that he could not agree with their classification, but that he did not doubt their integrity and honesty of purpose. The following extracts from the evidence given by Mr. Lumsden show that he withdrew all imputations against the engineers either as to their disregard of instructions or as to any improper motives on their part. We find on page 208 he said:—

Q. I might just ask you the question now that the same difference of opinion exists on District 'F,' between you and the district and subordinate engineers as on District 'B' with regard to this cemented material or assembled rock?—A. I think so.

Q. And the question on that district is, to all intents and purposes, in identically the same position as on Section 'B,' isn't it?—A. I think so, practically the same.

Q. Practically the same. It is a difference between you and the district and subordinate engineers as to the interpretation of that clause of the specification?—A. Yes, and of my interpretation of it.

Q. And of your interpretation of it—quite so.

By Mr. Moss:

Q. I would like to ask Mr. Lumsden if he makes any suggestion or any complaint regarding the professional capacity, integrity or ability of these engineers?—A. The professional capacity of some of the resident engineers I know nothing about.

Q. You make no charge—— ?—A. I make no personal charge against any one of intentional wrong-doing.

Q. And you do not as far as Mr. Poulin is concerned?—A. No, I do not as far as Mr. Poulin is concerned.

Q. You make no charge as to his capacity or integrity, or his attention to the work?—A. No, I make no charge of that kind.

Also on page 329:—

Q. You adopted the course of resigning in a letter couched in terms as would destroy public confidence in the whole engineering staff?—A. No, I don't think so.

Q. When you used such terms as that you had lost confidence in all the staff that is practically what it amounted to?—A. Well, in——

Q. Then you modified it by a postscript, or rather a letter the following day, that this did not apply to the whole staff. Looking at the matter now in a fair-minded way—I know it is not possible for me to put words in your mouth, or to lead you in the slightest degree—but looking at it now calmly and dispassionately, would it not have been fairer for you in view of all that has taken place—these differences of opinion and your attention being drawn especially to the Hodgins inquiry—would it not have been fairer to these engineers to have met them and threshed the thing out and had the thing settled, than to have used such terms as placed them all under such a charge as parliament found it immediately necessary to investigate?—A. Well, I didn't—I am sorry now that I put it in the words I did that I had lost confidence. I put just the words that came to me at the time. I am sorry I put in the words 'having lost confidence.' I felt that they—I could not agree with the classification as I found it.

By Mr. Macdonald:

Q. You now regard the expression you used as somewhat unfortunate?—A. Yes. 'Having lost confidence in them' is probably somewhat unfortunate for it reflects on them, but I did not intend to do it.

Also on page 332:—

Q. These men are the men who have suffered in their professional reputations?—A. Well, as I have said, in the outset, I withdraw that portion of it, so far as referring to their honesty and integrity in the matter is concerned.

Also on page 415, questioned as to whether he had not other reasons for resigning, Mr. Lumsden's evidence was:—

Q. Did you have any other reasons in your mind?—A. I can't say now whether I had or not.

Q. You can't say as to that, and the reasons which you did finally give were those reasons in regard to lack of confidence in your engineers, and you regret that expression as being an unfortunate one?—A. Yes, I do, and if I had to write it again I would probably put it in other terms.'

Also on page 474:—

Q. Now, Mr. Lumsden, supposing that instead of adopting the course which you have seen fit to adopt, of resigning and making these suggestions against the engineers, you had adopted the course of remaining with the commission and endeavouring to reconstitute your staff to your satisfaction, would you, on that investigation and on that material have felt justified in dismissing Mr. Richan from the service of the commission?—A. I did'nt consider it in that way at all; I didn't—as I seemed to be disagreeing with all of them, I came to the conclusion I would resign.

Q. Though you might be wrong and they might be right?—A. Exactly; I chose to resign; at any rate, that is what I did.

Q. Of course, you involved these gentlemen; I don't want to dwell on it any longer than is necessary, or to put any more stress on it than is necessary, but you saw fit to involve these gentlemen and it is necessary they should be cleared in regard to the matter; it is fair to say you would not have undertaken on such investigation as you had made to dismiss Mr. Richan from the service of the commissioners or to request his dismissal, would you?—A. I don't suppose I would.

Q. And in the suggestion that you made in putting in your letter of resignation in the terms in which you put it, you did not intend to suggest that he was incompetent or unfit to continue the work he was doing then?—A. I merely said, at least I don't know what I originally said, but my explanation at the

commencement of this investigation I said it was simply a matter of not agreeing with the classification; it wasn't a matter of losing confidence in their honesty nor their integrity.

It is to be regretted that Mr. Lumsden did not go earlier upon the work himself and visit it more frequently. Had he done so, it is probable that any question arising in regard to classification would have been immediately and satisfactorily adjusted; and when any difference arose, your committee are of the opinion that it was Mr. Lumsden's duty as Chief Engineer to have immediately taken steps to have had the difference settled, and if any portion of the staff refused to conform to his instructions, to have recommended their dismissal to the board of commissioners. The district engineers, Mr. Doucet and Mr. Poulin, both engineers of large experience and of high standing in their profession, stated that they were thoroughly familiar with the classification returned from their respective districts, and expressed their complete satisfaction with the engineers under them, and assumed complete responsibility for the work in their districts. As a consequence, it appeared to the committee that no further information that would be of assistance to them would be obtained by calling any engineers in addition to those whose evidence was taken.

Your committee beg to submit herewith to the House all the evidence taken before us to date for their information, and to report that in our opinion Mr. Lumsden's charge of general disregard of his instructions has not been sustained, and no evidence has been adduced which, in our opinion, would justify him in stating that he had lost confidence in the portion of the engineering staff referred to by him.

The committee beg to submit to the House such further or other reports as may be necessary.

All which is rspectfully submitted.

VICTOR GEOFFRION,
Chairman.

SIXTH REPORT.

TUESDAY, May 3, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden against a portion of the Engineering Staff of the National Transcontinental Railway beg leave to present the following as their Sixth Report:—

As regards the payment of fees and expenses of Counsel appearing before your Committee during the course of the inquiry held by them, your Committee recommend that, in addition to the fees to be paid to Mr. F. H. Chrysler, K.C., counsel for the Committee under the authority granted by the House on the 23rd February last, proper and reasonable fees and expenses should by paid to Mr. R. C. Smith, K.C., counsel for the Transcontinental Railway Commissioners, and to Mr. J. A. Moss, K.C., counsel for the Engineers affected by Mr. Lumsden's charges, and for this purpose they also recommend that the Clerk of the House and the Law Clerk be authorized to tax the fees and expenses of the said three counsel and to pay the same when so taxed out of any moneys voted by Parliament for expenses of Committees.

All which is respectfully submitted.

VICTOR GEOFFRION,
Chairman.

SEVENTH REPORT.

WEDNESDAY, May 4, 1910.

The Special Committee appointed to investigate the charges and allegations made by Hugh D. Lumsden against a portion of the Engineering Staff of the National Transcontinental Railway, beg leave to present the following as their Seventh Report:—

Mr. Lumsden having applied for compensation for the loss of the time he was required to remain in attendance upon the Committee, during which he was unable to accept any professional engagements, your Committee recommend that he be paid such compensation for a period of twenty-three days, on the basis of the salary which he received as Chief Engineer of the Transcontinental Railway, and that the Clerk of the House be authorized to pay the same out of any moneys voted by Parliament for expenses of Committees.

All which is respectfully submitted.

VICTOR GEOFFRION,
Chairman.

LUMSDEN INQUIRY.

FACTUM PREPARED BY F. H. CHRYSLER, K.C.

The Order of the House for the appointment of a special committee, dated 27th January, 1910, recites the letter of Mr. Hugh D. Lumsden, late chief engineer of the National Transcontinental Railway, dated 25th June, 1909, in which he uses the following language:—

> In view of the general disregard of my instructions, and having lost confidence in the engineering staff, I have concluded to resign my position as Chief Engineer.

And in a second letter, dated 26th June, 1909, addressed to the commissioners, Mr. Lumsden wrote as follows:—

> Referring to my letter of yesterday wherein I stated that I have lost confidence in the engineering staff, I beg to state that this does not apply to the whole staff, but applies only to a portion of the staff, who are responsible for the measurement, classification, supervision and inspection of considerable portions in District 'B' and east of Rennie Crossing in District 'F,' lately gone over by me.

The resolution further recites:—

> While this House deems it not desirable to take any action which might prejudice the position of either of the parties to the arbitration proceedings now in progress between the Grand Trunk Pacific Railway Company and the said Commissioners, yet the said recited allegations of said Hugh D. Lumsden, stated by him as the reasons for his resignation of the said position of Chief Engineer, are, in the opinion of this House, of such great public interest and involve such grave charges against a portion of the engineering staff of the Transcontnental railway as to make it desirable that the same should be investigated by a committee of this House.

Mr. Lumsden, when examined before the committee, at page 71 of the proceedings, read a statement referring to the two letters which have been received in the Order of the House:—

> My recent trips over portions of Districts 'B' and 'F' in conection with the arbitration, had led me to the conclusion that neither the general specifications, nor my instructions regarding classification, had been adhered to, but on the contrary, large amounts of material had been returned as solid rock which should only have been classified as loose rock or common excavation, and that material had been returned as loose rock which was or could have been handled by ploughing and scraping, and should have been returned as common excavation. I added that, on several residencies, there seemed to have been no attempt by the engineers to carry out my instructions and measure rock returned, either by showing the same on cross-sections, or by measurements of individual pieces, but that they appeared to have simply guessed at the amount by taking percentages of the total cutting. Further, in some cases where cross-sections were prepared showing ledge rock, same proved to be erroneous, resulting in a very much larger amount of the solid rock being returned than actually existed. Also, what is known as overbreak had been returned in

many places where it was caused by excessive use of explosives, and where the material was wasted this ought not to have been done. Under these circumstances, I declined to certify any further estimates in Districts 'B' and 'F,' and resigned my position as Chief Engineer, stating that, in view of the general disregard of my instructions, I had lost confidence in that portion of the engineering staff who were responsible for the measurement, classification, supervision, and inspection of considerable portions in District 'B' and east of Rennie Crossing in District 'F,' lately gone over by me.

I based the statements contained in my resignation both on the facts admitted by the engineers on the ground, in May and June, 1909, in their sworn statements made in my presence, and also upon my personal examination on the ground. On my going over the work, in both Districts 'B' and 'F,' I found many cuttings and borrow pits where the classification made by the engineers was such that, from my professional experience of nearly thirty years, I could not agree with it. This was especially so in cuttings where ledge rock and other materials were shown on cross-section sheets, but where, on the stations being pointed out by the engineers on the ground, no such ledge rock was found to correspond with such cross-sections; or where, in order that a reasonably accurate measurement of such rock should be made, it was evident that more numerous cross-sections should have been taken. In various places where assembled rock was shown on the cross-sections, an examination of the material on the adjoining slopes showed no assembled rock such as indicated in my interpretation of clause 34 of the general specifications, dated January, 1908. From my notes, taken on the ground at the time, I have compiled some examples or illustrations of the objectionable classification.

In regard to my loss of confidence in a certain portion of the engineering staff, I may say that this was due to their failure to carry out, in accordance with my views, the terms of the general specifications, and of my instructions and interpretations of clauses 34, 35 and 36 of the specifications. The engineers on the ground, who saw the work frequently while in progress, ought necessarily to be best qualified to make the classification, provided they have the necessary experience and are honest, and, though I may doubt whether some of them had the necessary experience (as exemplified by the manner in which some cross-sections were taken), I do not challenge the honesty of their intentions. However, being quite unable to agree with their classification in very many places, I preferred to resign my position and salary.

Mr. Lumsden has been examined by myself, as counsel appointed by the committee; by Mr. R. C. Smith, K.C., representing the commissioners of the Transcontinental railway, and Mr. J. H. Moss, K.C., representing the engineers. It is difficult to compress in any short space the result of the evidence. This is more difficult because it is not easy to reduce to any simple propositions either the statements contained in the letters or in the written statement of Mr. Lumsden on page 71 of the proceedings.

Mr. Lumsden says that he does not challenge the honesty of intention of the staff, although he doubts whether some of them have the necessary experience; so that, not only in the original statement, but repeatedly in his evidence, Mr. Lumsden has disclaimed any charge of impropriety or bad faith on the part of the staff. The charge that some of the engineers lacked experience is probably intended to apply more particularly to some of the resident engineers, and whatever foundation there may be for this charge, it does not seem to be of much importance considering the machinery provided for the working out of the supervision of the construction of the railway, both by the staff of the National Transcontinental Railway Commission and by the engineers appointed on the part of the Grand Trunk Pacific Railway Company.

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In order to see the conditions which surround the work of the engineers, it is desirable to refer to certain sections of the contract and of the statute. In the general form of contract by the Railway Board, which was adopted and used uniformly in all the contracts for the work, with the exception of a slight change (indicated in the evidence) in the insertion of clause 36a of the specification, the word 'engineer' is defined in section 2 of the contract as including the 'Chief Engineer' and the engineers below him, and among other provisions contains the following sentence:—

> All instructions and directions or certificates given, or decisions made, by any one acting under the authority of the Chief Engineer shall be subject to his approval and may be cancelled, altered, modified and changed as he may see fit.

And also this sentence:—

> In all cases where the contractor or the commissioners are dissatisfied with the decision of the engineer or inspector in immediate charge of the work, an appeal to the Chief Engineer may be made.

This definition is the guide to a system which is apparent through all the clauses of the contract, under which the engineering staff was made parts of one whole, as was explained in the evidence, the primary rank are the resident engineers, who remain on the work during the time it is in progress and have under their charge a division of about ten miles each. Over them are division engineers, or engineers of divisions, who are responsible for the work and are in touch with and advise with the resident engineers and have under them about forty or fifty miles of railway, called divisions.

The whole line of railway is divided into six districts, lettered from A to F; and of these, two are particularly referred to in the evidence. That portion of District 'B' lying north-west of the city of Quebec and extending for about 180 miles, and District 'F' beginning at the city of Winnipeg and extending easterly to a point a few miles east of Superior Junction. Each of these districts had a district engineer and assistant district engineer to supervise the work of the division engineers.

In the preparation of estimates, which involve the measurement of the work and its classification, the foundation of the return was the work of the resident engineer upon the ground, subject to revision by the division engineer, further revision by the district engineer, and finally subject to approval by the Chief Engineer of the railway before payment was made thereon. In no case to which the evidence has been directed has a final estimate been given to a contractor for the work, and the revision of the progress estimates is subject to the provisions of section 34 of the contract providing for cash payments equal to about ninety per cent being made to the contractor monthly, the remaining ten per cent to be retained until the final completion of the whole work to the satisfaction of the Chief Engineer for the time being, having control over the work; also to section 39, which provides that:—

> The progress measurements and progress certificates shall not in any respect be taken as binding upon the Commissioners, or as final measurements, or as final amounts; they are to be subject to the revision of the engineer in making up his final certificate, and they shall not in any respect be taken as an acceptance of the work or release of the contractor from responsibility in respect thereof.

Section 15 of the contract should also be noted. It provides that:—

> The engineer shall be the sole judge of work and material in respect of both quantity and quality, and his decision on all questions in dispute with regard to work or material shall be final

It is apparent that mere inexperience on the part of the resident engineers would not result in the improper payments of moneys to contractors, under the clauses of this contract, unless their work was adopted and approved by the engineers above them, including the Chief Engineer, responsible for the proper enforcement of the provisions of the contract.

Another security, however, was provided for ensuring the due performance of the contract, in the arrangement referred to in the evidence, by which the construction of the railway is made subject to the supervision of the Chief Engineer of the Grand Trunk Pacific Railway Company. This is provided for in the contract between the government and the company, contained in the schedule to the statute of 1903, chap. 71.

Section 7 of the contract is as follows:—

> In order to ensure, for the protection of the company as lessees of the eastern division of the said railway, the economical construction thereof in such a manner that it can be operated to the best advantage, it is hereby agreed that the specifications for the construction of the eastern division shall be submitted to, and approved of by, the company before the commencement of the work. And that the said work shall be done according to the said specifications and shall be subject to the joint supervision, inspection and acceptance of the Chief Engineer appointed by the government and the Chief Engineer of the company; and, in the event of differences as to the specifications, or in case the said engineers shall differ as to the work, the questions in dispute shall be determined by the said engineers and a third arbitrator, to be chosen in the manner provided in paragraph four of this agreement.

Before passing from this section it will be observed that in the first place it provided for the submission to and approval by the company of the specifications for the construction of the eastern division before the commencement of the work; according to the evidence this was carried out, and the specifications—some clauses of which are under consideration in this inquiry—were submitted to and approved by the Grand Trunk Pacific Company before the commencement of the work.

The second part of the section—as to joint supervision and inspection—has been carried out, according to the evidence, by the appointment of an engineer on behalf of the Grand Trunk Pacific Railway Company to supervise the work of construction of the eastern division with district engineers, on each of the districts in question here.

It appears from the evidence that there were district engineers representing the Grand Trunk Pacific Railway Company each having special charge of District 'B' and of District 'F,' who were upon the work from the beginning of construction, and who have had submitted to them the plans, measurements and returns for all work during the progress of construction up to the present time.

The evidence of Mr. Gordon Grant, now the Chief Engineer of the Transcontinental Railway Commission, shows the present position of the arrangement between the Commission and the company with regard to the payment of the contractors. So far as the two districts are concerned, he states that the points in dispute are comparatively unimportant in number or amount; that a great many of them have been satisfactorily agreed upon by the engineers representing the two parties; and that those that have not yet been settled are in course of adjustment.

Should an adjustment by the engineers not be arrived at, the sections of the contract which relate to the settlement of any dispute provides for the appointment of a third arbitrator by the Chief Justice of the Supreme Court of Canada.

Before referring to the evidence, it will be convenient to refer to the clauses of the specifications which have been the subject of the discussion in Mr. Lumsden's evidence and that of the other witnesses. The evidence turned upon the clauses as to classification, which are as follows:—

CLASSIFICATION.

33. Grading will be commonly classified under the following heads: 'Solid Rock Excavation;' 'Loose Rock' and 'Common Excavation.'

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SOLID ROCK EXCAVATION.

34. Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

LOOSE ROCK.

35. All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials, that cannot, in the judgment of the engineer, be ploughed with a ten-inch grading plough, behind a team of six good horses, properly handled, and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'loose rock.'

COMMON EXCAVATION.

36. Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.

36a. No classification other than that of common excavation will be allowed on material from borrow pits, except by order in writing of the engineer.

SLIDES.

37. Material in slips, slides and subsidences extending beyond slopes in cuttings will not be paid for unless, in the opinion of the engineer, such occurrences were beyond the control of the contractor and not preventable by use of due care and diligence.

CLASSIFICATION OF SLIDES.

38. The classification of material from slides shall be made by the engineer, and will be in accordance with its condition at the time of the slide, regardless of prior conditions.

The nature and history of the difference of opinion between the Chief Engineer and his subordinate engineers is traced in the documents which have been filed as exhibits and in the evidence of the witnesses. The difficulty arose in some degree, it is evident, from the fact that Mr. Lumsden did not feel that he had the same freedom of action as in acting for a private corporation.

In a letter dated 24th September, 1907 (Exhibit 8, page 145 of the proceedings) Mr. Lumsden says:—

> Personally, I feel that matters are so different under a government commission, whose powers are limited by the Act, from what they had previously been under a corporation, who could act on their own initiative and take the responsibility of making such modifications in contracts as now suggested by me in just such difficulties as are now being experienced in District 'F' that unless some relief can be given, the strain and worry connected with my present position is more than I can stand, especially as the salary is not in proportion to the responsibility involved.

The difficulties referred to at the time were those arising from the high price of labour, the difficulty of securing men and of securing the rapid progress of the work by the contractors owing to the fact that it was not profitable at the prices mentioned in the contract. (See the remainder of the letter, Exhibit 8.)

Mr. Lumsden states in his evidence that later on—a few months after—that position was changed; that labour was more abundant, and the wages were not so high. But Exhibit 8 should be carefully examined, as it contains a statement of the conditions and difficulties which prevailed in the month of September, 1907. The same letter contained the recommendation of the appointment of Mr. S. R. Poulin as district engineer for District 'F' in succession to Mr. Hodgins, who had resigned.

On the 7th October, 1907, Mr. Lumsden received a letter from Mr. Woods, assistant chief engineer of the Grand Trunk Pacific (Exhibit 10) stating that District Engineer Armstrong, a Grand Trunk Pacific engineer, was furnished recently with a statement of classifications for the heavier work on Section 'B,' and that Mr. Woods and Mr. Armstrong visited the work, passing over portions of the work west of the Batiscan river, and from mile 115 to mile 132. It contains some statements which show quite clearly that the engineers of the Grand Trunk Pacific Railway Company were at that time aware that clause 34 of the specification was construed as meaning rock in masses, or material in masses, other than ledge rock. Mr. Lumsden replied (Exhibit 11, page 149) stating that the matter should be looked into and a full investigation made. This was followed in the same month by a conference at La Tuque, which took place about the 25th October, and a report of which was made by Mr. Lumsden to the commissioners on the 30th October, 1907 (Exhibit 13.)

Evidence has been given by several witnesses who were present at that conference, including, beside Mr. Lumsden, Mr. Doucet, Mr. Grant and Mr. Huestis; and all agree that at the meeting in question Mr. Woods withdrew the statement which had been made in Exhibit 10, that the over-classifications which he alleged were made, not through error of judgment, nor upon the decision of the resident or division engineers, who were fully acquainted with the character of the work, but by arbitrary orders from their superior.

According to Mr. Doucet, the discussion referred to in Exhibit No. 13 turned upon the meaning of clause 34, which the engineers other than Mr. Lumsden maintained included masses of material which in the judgment of the engineer may be best removed by blasting, and consisting largely of rock cemented together.

The matter was submitted to the government in accordance with the request of Mr. Lumsden contained in his letter (Exhibit 14, page 153) and is referred to in the letter of the secretary of the board (Exhibit No. 15, page 154), in which the secretary says:—

> As the correspondence will show, the complaint of the Grand Trunk Pacific engineer has resulted in revealing for the first time since construction started the difference between the Chief Engineer of the commissioners and his staff with respect to the interpretation of clauses of the contract relating to classification.

Also:—

> Although the complaint of the Grand Trunk Pacific engineer specifically relates to certain cuttings on Macdonnell & O'Brien's contract, the whole work will be affected by the interpretation of paragraph 34 of the specifications. Accordingly both our contractors in District 'B' have been officially notified of the interpretation placed by our Chief Engineer on paragraph 34 of the specifications, and their replies contesting the interpretation of our Chief Engineer are included in the correspondence which accompany this letter.

The correspondence was referred back to the Minister of Railways to the Railway Board with the statement that he considered that full power was vested in the commissioners and their Chef Engineer to carry on the work in such a way as to them seemed best. (Exhibit No. 16, page 155.)

Mr. Lumsden then submitted an interpretation of clauses 34 and 36 of the specifications (Exhibit No. 17, page 156), which he stated was made by him after consulting with Mr. Collingwood Schreiber, consulting engineer to the government.

On the 20th December the correspondence was submitted to the Department of Justice (Exhibit No. 18, page 157), and returned by the Deputy Minister of Justice, Mr. Newcombe, on the 6th January (Exhibit No. 19), in which he stated his approval of the interpretation placed by the Chief Engineer upon the contract, with one exception. He says:—

> I see no reason to differ from the classification stated by the Chief Engineer in his letter to the commissioners of the 16th ultimo, except as to the statement

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that 'rock assembled (the individual pieces of such assembled rock exceeding one cubic foot in size)....such as in the judgment of the engineer may be best removed by blasting, is to be classified as solid rock excavation under clause 34. I do not understand upon what principle the Chief Engineer limits the size to pieces exceeding one cubic foot. The specification speaks of rock found in ledges or masses of more than one cubic yard, which in the judgment of the engineer may be best removed by blasting. If 'rock assembled' may be regarded as a mass of rock, and if it may be best removed by blasting, I do not see why under the specification it is material whether the individual pieces exceed or are less than one cubic foot in size, and if 'rock assembled' is not regarded as a mass, the minimum limit of size which can be classified as solid rock exceeds one cubic yard.

Immediately afterwards, on the 9th January, Mr. Lumsden communicated to the commissioners of the Transcontinental railway the letter received from the Deputy Minister of Justice, and he says:—

After fully considering his remarks in regard to the words after 'rock assembled' (the individual pieces of such assembled rock exceeding one cubic foot in size), I have concluded in deference to his remarks these bracketed words might be omitted, as also the words 'not covered under clause 34' in items 1 and 2 under the heading 'loose rock.'

My interpretation of these clauses will now be as follows:—

Clause 34—Solid Rock Excavation.

Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which in the judgment of the engineers may be best removed by blasting.

I am of the opinion that rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum pudding stone), boulders or ledge rock displaced (in pieces each exceeding one cubic yard in size), rock assembled also shale rock, such as in the judgment of the engineer may be best removed by blasting.

I attach a diagram in explanation of the above, which, in my opinion, is all that is included under clause 34—solid rock.

Clause 35—Loose Rock.

All large stone and boulders measuring more than one cubic foot and less than one cubic yard and all loose rock, whether in situ or otherwise, that may be removed by hand pick or bar, all cemented gravel, indurated clay or other materials that cannot in the judgment of the engineer be ploughed with a 10-inch grading plough behind a team of six good horses properly handled, and without the necessity of blasting, although, blasting may be occasionally resorted to, shall be classified as loose rock.

Under this heading I would include:—

(1) All large stones and boulders more than one cubic foot and less than one cubic yard.

(2) All loose rock in situ or otherwise that may be removed by hand-pick or bar.

(3) All cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, be ploughed with a ten-inch grading plough, behind a team of six good horses properly handled and without the necessity of blasting, although blasting may be occasionally resorted to.

Clause 36—Common Excavation.

Common excavation will include all earth, free gravel or other material of any character whatever, not classified as solid or loose rock.

This interpretation was made by me after consulting with Mr. Collingwood Schreiber, consulting engineer to the government.

The above, together with the diagram (Exhibit 20*a*), page 160 of the evidence form what is referred to afterwards throughout the evidence as Mr. Lumsden's interpretation. The blue print consists of four diagrams, No. 1 showing a piece of rock in ledges; No. 2, rock in boulders; No. 3, conglomerate rock; No. 4, detached ledge rock. All these, Mr. Lumsden says in his note at the foot of the blue print, are mere matters of measurement. No. 5 is a diagram showing rock in masses of over one cubic yard (assembled rock) which in the judgment of the engineer can be best removed by blasting. There is nothing upon the print to indicate the scale upon which the pieces of rock are drawn, nor how much of the total space the rock is to occupy. This class, along with that in No. 6, which is shale rock, have by way of explanation, a note in the following terms:—

> Nos. 5 and 6—to form a judgment as to whether or not it is best removed by blasting, the Chief Engineer must view the work in progress or leave it to be decided by the engineer in charge, whose duty it is to frequently visit the work during its operation and be governed thereby and act accordingly.

The interpretation was approved of by the Commission and was sent by Mr. Lumsden to the district engineers. Exhibit No. 21 is Mr. Lumsden's letter to Mr. Doucet submitting the interpretation, and contains an inquiry as to whether the classification in District 'B' conforms to such interpretation; directs Mr. Doucet to take steps to have the division and resident engineers, who are personally acquainted with the work, take up the matter and have an estimate prepared, showing the difference such classification would make with that which has heretofore been used by you; directs measurements to be made showing the classification of cross-sections, where regular or other classification of material is made in large quantities or measurements made by an assistant, of rock or loose rock in boulders; and concludes:—

> Actual measurements shall be made of all classified material returned, and not by percentages, except in cases where measurements are impracticable in the judgment of the engineer in charge.

A similar letter was written to Mr. Poulin, and received by him.

Exhibit 22 should be read along with Exhibit 21, although it does not appear to qualify it in any material respect.

At page 162 Mr. Lumsden says that he did not regard the interpretation as constituting a change in the specification; that he did not recollect any written instructions prior to January 9; but that there was verbal conversation on the visit to La Tuque in October, 1907, and that any verbal conversation with the district engineer of District 'F' must have taken place with Major Hodgins, because he had not visited the work after Mr. Poulin took charge of it in September, 1907, down to January, 1908.

There does not appear to have been any foundation disclosed in evidence for Mr. Lumsden's complaint with regard to the engineers having disregarded his instructions prior to January, 1908, because the instructions issued in January, 1908, appear to be the first distinct instructions upon the subject. Mr. Lumsden says that in his view they did not constitute any change in the meaning of the specification. Mr. Doucet and Mr. Poulin, the district engineers, say that in their view the interpretation did not affect any change in the practice which had prevailed in regard to classification and measurement upon their respective districts. And there seems no reason to conclude, from any part of the evidence, that so much of Mr. Lumsden's charge of complaint against the engineers—that they had failed to carry out his instructions—(if by that charge it was intended to imply that the engineers were guilty of wilful disregard of instructions) has been proved.

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Mr. Lumsden, however, does not in his evidence put it upon that ground, but rather upon the ground that the staff understood the specification and his interpretation differently from the manner in which he understood it himself, and that the substance of the complaint is contained in the latter part of the statement, in which he says that his loss of confidence was due to 'the failure of the engineers to carry out, *in accordance with my views,* the terms of the general specification, and of my instructions and interpretations.' The statement is quite consistent with the conclusion that the engineers were honestly and faithfully endeavouring to carry out, even though mistakenly, their own views and understanding of the specifications and interpretations. This, when examined in the light of the whole of the evidence which has been given, seems to be the whole ground of controversy.

Even after the interpretation of January, 1908, Mr. Lumsden seems to have understood the specification and interpretation in one sense while the district engineers and their staff under them understood them in another sense. What the difference was requires careful reading of the whole evidence; but the difference is perhaps more clearly brought out in the evidence of Mr. Doucet, who says that early in the discussion he raised the question with the Chief Engineer as to the meaning of the interpretation relating to 'assembled rock,' whether under it the Chief Engineer intended that the 'assembled rock,' or rock in masses, should be allowed only where the entire mass was rock. Obviously that interpretation could not be tenable, because the interstices between the rock would have to be filled with something. The diagram evidently referred to shattered or broken rock lying in masses, and, according to the definition in clause 34, cemented together and requiring to be blasted. But even if all those conditions were satisfied, there was still the question whether solid rock could or should be returned where the proportion of the mass was largely but not wholly rock; and when the solid rock content was not broken or shattered rock, but round boulders with clay, sand, gravel or small boulders filling the interstices. See Mr. Lumsden's evidence beginning at page 422.

At page 425 Mr. Lumsden says his idea was that assembled rock should mean a mass of boulders in contact with each other.

At page 426 Mr. Lumsden says the amount of solid rock in material consisting of boulders of uniform size touching one another throughout the mass would be 65 or 70 per cent of the whole cubic contents.

Mr. Gordon Grant, at page 532, says:—

> I would be willing to allow a mass that is sufficiently hard to justify continuous blasting to remove it if the proportion of rock in it was anywhere from fifty to a hundred per cent. I would be more guided by the difficulties of removing it than by quibbling on the percentage of rock provided it was above fifty.

Mr. Doucet had some correspondence with Mr. Lumsden discussing the matter of classification. (See proceedings, page 562; exhibits 21, 86, 87 and 88.)

At page 565 he says that he agrees with Mr. Grant that the test of continuous blasting was absolutely necessary in order to classify material as solid rock under the specification, and that he did not sanction the classifying, as solid rock, material which could have been removed by occasional blasting or without blasting at all.

Mr. Doucet's evinedce from page 564 gives his views with regard to the meaning of the specification and the different discussions of the matter with Mr. Lumsden, and at page 571 he says that in his view the material consisting of boulders cemented together and which would require continuous blasting to remove, should be classified as solid rock if the proportion of the whole mass contained fifty per cent rock, and that where the massed material contains less than fifty per cent of boulders it should be classified as loose rock under the head of 'cemented material.' See the bottom of page 571.

At page 573 Mr. Doucet says that he had an understanding with Mr. Lumsden as to the proportion of boulders in the mass, which was agreed upon in June, 1908,

and accepted also by Mr. Woods, the assistant chief engineer of the Grand Trunk Pacific.

Mr. Doucet says that he discussed the matter with Mr. Lumsden, and that Mr. Lumsden assented to Mr. Doucet's view—that a fair working rule would be to classify as solid rock material which contained at least 50 per cent of solid rock in mass.

Mr. Lumsden was asked whether he remembered having a discussion with Mr. Doucet upon the subject, and said he did not remember (see page 436); but it is apparent that some percentage of other material than rock must, in any case, form part of such a mass.

The controversy as to solid rock is almost the only one arising out of the construction of the work upon District 'B.' On this district, according to the evidence, large quantities of boulder rock are found in deposits which, according to the evidence, were cemented together and required continuous blasting to remove. The resident engineer upon Residency No. 28, District B (Mr. Cressman), gave evidence as to the character of the rock, which is of special value because it is given by the engineer actually in charge and resident on the work while the work was in progress, and upon whose residency occur the larger number of localities referred to by Mr. Lumsden in his illustrations of District 'B,' submitted to the committee in Exhibit No. 2, page 79 of the proceedings.

With regard to District 'F,' the questions are different. The question of the allowance of solid rock where boulders occur in masses of cemented material, is, according to the evidence, not of much importance, although there were some cuttings containing assembled material found in the eastern end of the district.

Four questions, however, are the subject of criticism by Mr. Lumsden and are discussed in the evidence.

1. The first of these is what is termed 'overbreak,' or the allowance for material in rock cuttings outside of slope lines, and the question whether it should or should not be allowed depends upon the construction of clauses 34 and 37 of the specifications. Without repeating these clauses, which have been already quoted, the evidence of the engineers seems to be in agreement, that the material behind the slope line is to be allowed and paid for unless removed by the excessive use of explosives. The evidence agrees that a certain amount of breaking away behind the slope line in rock cuttings is inevitable, and usually occurs on one side where the lines of cleavage of the rock make it necessary, and usually on the opposite side of the same rock cutting the slope can be, as a rule, adhered to without much removal of material outside the line. There are cases, however, where large masses of rock are necessarily shattered and brought down by the effect of the blasting in the cutting below, and where the engineer will, in the interest of the work, require the contractor to bring down loose or shattered rock, which is liable later on to fall in the cutting and cause disaster. There is no difference among the witnesses as to the interpretation of the specification; it is simply a question of applying the judgment of the engineer to the conditions which prevail at each locality, and apart from the removal of the rock in the cutting, the application of the rule which prohibits wasting of the rock if it should be used in the construction of embankments. Any errors which may have been made in the classification of solid rock owing to the undue allowance of overbreak is a matter that can be readily adjusted by engineers examining the work, and according to the evidence of Mr. Grant such examination has in a great many cases already been made.

2. Mr. Lumsden does not in his letters or explanations refer to the subject of the measurement of frozen material as loose rock, but some evidence has been given with regard to it. The conditions which give rise to it are variously stated. Mr. Lumsden said that he had himself given express instructions that frozen earth or material which would be classified as common excavation, requiring to be removed for the purpose of opening cuttings, should be classified and paid for as loose rock. Mr. Poulin

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referred to a circular letter of instruction issued by his predecessor, Major Hodgins, directing the engineers to allow, under the circumstances mentioned in the circular, for frozen material as loose rock, in order to forward the progress of the work; and Mr. Poulin says that being himself instructed by the Chief Engineer to press forward the work in the autumn of 1907, when he went there, he authorized in several cases the allowance of frozen material as loose rock in the interests of the work, and where it was deemed necessary for that purpose. It is pointed out that the season in district 'F' is very short, that the ground is frozen for many months of the year, and that where rock and earth alternate, it would not be economy to delay the progress of the work of excavation because of the increased cost of removing frozen earth where necessary to enable the contractor to get at and remove rock, even if the frozen earth is paid for at loose rock prices. Whatever view may be entertained as to the propriety of these payments there is no controversy between Mr. Lumsden and the engineers as to allowance of frozen material, and he has not himself in any case complained of it. Nor does it, so far as I am aware, form a subject of any complaint on the part of Mr. Woods, representing the Grand Trunk Pacific.

3. The allowance for frozen muskeg in some instances, objected to by Mr. Lumsden, is somewhat similar, but rests upon a different ground. It is pointed out by Mr. Poulin and Mr. Richan that in two or three cases the material consisting of muskeg was so wet during the summer months that the men could not stand in it and work it, and that the only way of getting over the ground was to excavate it in winter when it was frozen; and that being done as winter work, it was properly the subject of allowance as loose rock under the definition contained in clause 35.

The specification does not contain any special provision with regard to frozen material except that contained in clause 16, which provides that the contractor shall at his own cost remove snow and ice from any portion of the work, whenever deemed necessary by the engineer. If frozen muskeg is not loose rock under clause 35 it would fall within the clause which provides for a price being fixed for undescribed material.

4. The allowance of loose rock price for indurated material in borrow pits near Wabigoon and upon some cuttings near the same locality, is given a good deal of space in the evidence by Mr. Lumsden and by Mr. Poulin. It was reported to Mr. Lumsden by Mr. Poulin at the time, and his reasons for the conclusion at which he arrived were given. In this case the contractor was allowed, for the material removed, one-half the total quantity at loose rock price, and one-half as common excavation.

Whether Mr. Lumsden or Mr. Poulin is right in this matter, the difference is a comparatively small one, and it is really not the one which Mr. Lumsden refers to in his statement as the reason for his having lost confidence in his engineering staff.

The real question was the question of the allowance of rock in masses, and it is apparent from the evidence as a whole that even when Mr. Lumsden gave his evidence he was not prepared unreservedly to give effect to his own interpretation with regard to the meaning of what he called assembled rock, but that his view was that the assembled rock, or rock in masses, should consist almost wholly of fragments of rock, and that boulders cemented together, no matter how closely they might be found in the material, would not constitute masses of rock, in his view. As he expresses it, in more than one place in his evidence, he had in his mind the practice under previous contracts and specifications in which rock meant rock and nothing else; but it is apparent from the interpretation of Mr. Lumsden and his evidence that the term 'solid rock' as used in clause 34 of the specifications, is a mere collective term and means the various things which are included within the definition, just as 'loose rock' under clause 35 includes many things which are not, in the strict sense of the term, loose rock at all. Cemented gravel and indurated clay are not, in the proper sense of the term, loose rock, but they are loose rock within the meaning of the specification; and 'solid rock' includes materials which are not solid rock in the ordinary acceptation of the term.

When the evidence established that the difference of opinion really turned upon the different views of the Chief Engineer and the other engineers as to the meaning of these clauses, it did not seem necessary to prolong the inquiry by summoning the engineers holding subordinate positions on the staff; but Mr. Richan, a division engineer on the eastern portion of District 'F,' upon whose district were the larger number of all the localities mentioned by Mr. Lumsden in his list, was called and gave evidence of the manner in which the work was carried on and returns made upon that division, and similarly evidence was given by Mr. Cressman, resident engineer upon Residency No. 18 of District 'B.'

Having regard to the manner in which the evidence has been given, to the nature of the questions, and to the fact that Mr. Lumsden has not made any charge affecting the personal integrity of competency of the engineers, it did not seem desirable to incur the expense or delay involved in calling the other engineers whose names have been mentioned.

Referring again to Mr. Lumsden's statement in Exhibit No. 1, it may be summarized as containing the following statements:—

(1) The general specifications and instructions regarding classification were not adhered to, but large amounts of material had been returned as solid rock, which should only have been classified as loose rock or common excavation, and that material had been returned as loose rock which was or could have been handled by ploughing or scraping, and should have been returned as common excavation.

The result of the whole evidence as to this complaint or charge is that Mr. Lumsden did not agree with the judgment of the engineers on the ground as to the classification of the material found, and of the description termed by the engineers 'mixed material,' and as the proportion of such material which should be classified as solid rock, loose rock and common excavation respectively.

Mr. Lumsden himself disclaims any intention of charging that the engineers intentionally disregarded the specification or the interpretation of January, 1908, (the document referred to as his instructions regarding classification), and it should be noticed that a great deal of the work had been done and material classified prior to January, 1908, when those instructions were given, and while the engineers had no instructions upon the subject other than the specifications to work from.

(2) The second statement is that on several residencies there seemed to be no attempt to carry out the instructions of the Chief Engineer and measure rock returned either by showing the cross-sections or by measurements of individual pieces, but that they appeared to have simply guessed at the amount by taking the percentage of the total cuttings.

With regard to this the witnesses all agree that ledge rock should be measured and that boulders returned as solid rock because of their exceeding one cubic yard in measurement should be measured and that ledge rock should be shown upon the cross-section.

On the other hand, the evidence establishes that the measurement of the proportions of solid rock, loose rock, and common excavation in mixed material is not possible, and that this can best be estimated by the observations of the resident engineer from day to day. It should be observed, also, that the circular letter of January 30, 1908, which Mr. Lumsden admits were the first general instructions on the subject, contained for the first time the specific instructions as to measurements—coupled, however, with the qualification that these should be insisted upon unless from the nature of the material it was impracticable to obtain them.

The district engineers and their staff who were examined assert that these instructions were carefully obeyed from the time that they were received, but it seems that previously there were instances in which the cross-sections did not show the dividing line between the ledge rock and mixed material overlaying it, and that the cross-sections did not show separately the amount of material lying inside and out-

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side the slope line where overbreak was returned. The cases in which this occurred were very few and were not of serious importance. It appears from the evidence of Mr. Grant and Mr. Doucet that in the remeasurement, which is taking place, the corrections are being made and all the information is being given upon the cross sections.

(3) The third statement is that in some cases where cross-sections were prepared showing ledge rock, same proved to be erroneous, resulting in a very much larger amount of the solid rock being returned than actually existed.

The remarks upon the second statement cover this. From the explanation given in regard to it, it is the repetition in another form of the omission of dividing lines between ledge rock and assembled rock upon some of the cross-sections.

(4) The fourth statement is that overbreak had been returned in many places where it was caused by excessive use of explosives; and where the material was wasted, this ought not to have been done.

As put by Mr. Lumsden here, the propriety of the allowance of overbreak seems to depend upon the question of whether the material was employed in the construction of the embankment, or was wasted. This is a partial view of the proper construction of the specification, which provides for the allowance of overbreak where it is not caused by excessive use of explosives; and although the wasting of it may in many cases follow careless blasting, the allowance of it does not necessarily depend upon whether the material is usefully employed or not. It is evident that in many cases overbreak ought to be paid for although it would not be economy to haul it and employ it in an embankment.

The evidence as to overbreak shows that it is a matter of judgment between the engineers of the Commission and the contractors on the one hand, and between the engineers of the Commission and the engineers of the Grand Trunk Pacific Railway Company on the other hand, and that any differences on this subject have been and are being adjusted.

In view of Mr. Lumsden's evidence, in which he has repeatedly stated that the real question in difference between himself and his engineers was a difference between his judgment and theirs as to the allowance of assembled rock or rock in masses, under clasue 34 of the specification, inasmuch as Mr. Lumsden was the chief engineer, and the judgments of the engineers having immediate charge of the works were subordinate to his own, it does not seem that any of the matters which are mentioned in Exhibit 1 can be considered as a sufficient reason for his resignation. There are differences of opinion which might fairly be expected to occur between himself and such engineers, while the specific causes of complaint mentioned above relate to matters of comparatively minor importance compared with the difference of opinion which no doubt existed as to the classification of assembled rock.

F. H. CHRYSLER.

MINUTES OF PROCEEDINGS

WEDNESDAY, February 16, 1910.

The Special Committee appointed to inquire into the charges and allegations made by Mr. Hugh D. Lumsden, late Chief Engineer of the National Transcontinental Railway, met in Room No. 30 at 11 o'clock a.m.

PRESENT:—Messrs. Geoffrion, Macdonald, Clarke (Essex), Wilson (Laval), Lennox, Barker and Crothers.—7.

On motion of Mr. Macdonald Mr. Geoffrion was chosen as chairman.

On motion of Mr. Macdonald it was

Resolved, That the Board of Commissioners of the National Transcontinental Railway be notified of the date of the next meeting of the committee, and that a summons be issued to Mr. Hugh D. Lumsden, late Chief Engineer of the said railway, to appear at the next meeting for the purpose of defining his position in regard to the matters which have been referred to the committee.

Mr. Barker moved that an order do issue for the production by the proper officer of the following papers, viz.:—

1. Contracts, correspondence and papers in regard to Mr. Lumsden's appointment; minutes, correspondence, directions and papers as to his authority and duties, and the performance of his duties, and his retirement.

2. Similar papers to above, and all recommendations as regards the several members of the engineering staff from time to time employed on Districts B and F.

3. All construction contracts upon Districts B and F, with the tenders for the works comprised therein; the data, plans and information upon which the tenders were figured out; the papers exhibiting such figuring out, and the specifications, original and amended.

NOTE.—Where contracts or other forms are common to several works, one only need be produced, with, as to the others, a memorandum giving necessary particulars.

4. All progress and other estimates as regards such works submitted to the Commission, and the chief engineer's reports and comments thereon.

5. A statement as regards Districts B and F, what matters in dispute have been referred to and are still pending before the arbitration, and what have been disposed of and in what manner.

6. A statement of the general nature of each such matter in dispute so referred or so pending of the estimated sums of money and quantities, by classes, involved, and the location by mile-posts, or other more convenient and particular manner, of such respective works.

7. All papers and correspondence relating to any matter which had been in dispute and which has been disposed of, whether referred to the arbitrators or not; and as to the disposition thereof so far as the parties to the arbitration are concerned; and also as regards the contractors for the work.

Resolved, That an order do issue for the production of the papers mentioned in the first four paragraphs of the foregoing motion.

On motion of Mr. Macdonald, it was

Resolved, That the committee do recommend that leave be granted to them to sit while the House is in Session.

The committee adjourned till Tuesday, 22nd instant, at 11 o'clock, a.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

TUESDAY, February 22, 1910.

The committee met at 11 o'clock a.m.

PRESENT:—Messrs. Geoffrion (chairman), Macdonald, Clarke (Essex), Wilson (Laval), Barker, Lennox and Crothers—7.

Mr. R. C. Smith, K.C., informed the committee that he was present to represent the Board of Commissioners of the National Transcontinental Railway as counsel.

Mr. Barker moved that the committee proceed to the consideration of the motion made by him at the last meeting of the committee for the production of certain papers and documents. Mr. Macdonald moved in amendment thereto that consideration of the said motion be allowed to stand for the present, to enable Mr. Lumsden to be heard, amendment agreed to.

Mr. Lumsden stated that it was not his intention to be represented by counsel.

Mr. Lennox moved that the committee do not proceed with the investigation until counsel has been engaged on behalf of the public, in order that the facts may be fully elicited, it having been announced that Mr. Smith, K.C. appears as counsel for the Commission, and Mr. Lumsden of being without counsel.

Mr. Macdonald moved in amendment thereto that the committee proceed to hear what statement Mr. Lumsden has to make, and on hearing him will, in view of his having stated that he does not desire counsel, determine what parties, if any should be represented by counsel in order to best ascertain the full facts, and the question being put on the amendment, the committee divided as follows: Yeas—Messrs. Macdonald, Clarke (Essex), and Wilson (Laval), 3. Nays—Messrs. Barker, Lennox and Crothers, 3. The voices being equal the chairman voted yea and declared the amendment carried. Motion as amended agreed to.

Mr. Barker moved that the committee do now adjourn, which was negatived.

Mr. Hugh D. Lumsden was sworn and produced a statement of the reason for resigning his position. (*See* Exhibit No. 1, page 71, of the Evidence.)

Mr. Lumsden also produced a memorandum showing returns of classification at certain stations in Districts B and F, and notes thereon made by himself after personal observation. (*See* Exhibit No. 2, page 79, of the Evidence.)

Mr. Lumsden was asked to produce at the next meeting of the committee, a statement of the names of the engineers responsible for the classification on the said stations so far as he could ascertain or recollect them (together with a statement of what each engineer had said to him in regard thereto and upon which he had based his statement that he had lost confidence in a portion of the staff.)

Mr. Lennox moved that committee recommend that their proceedings and the evidence taken by them be printed and reported to the House from day to day, which was agreed to.

Committee adjourned till to-morrow at 11 o'clock.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

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WEDNESDAY, February 23, 1910.

The committee met at 11 o'clock a.m.

PRESENT: Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), Wilson (Laval), Barker, Lennox and Crothers, 7; also Mr. R. C. Smith, K.C., Counsel for the Transcontinental Railway Commissioners.

The Minutes of the last meeting was read and confirmed.

Mr. Lumsden produced a memorandum (Exhibit No. 3) giving the names of some of the engineers in districts B and F in whom he had lost confidence, and attached thereto (Exhibit No. 3*a*) a copy of the evidence taken by the Board of Arbitrators, containing the statements made by the said engineers, and on which he had based in part his reasons for loss of confidence in them.

On motion of Mr. Macdonald it was

Resolved, That only such portions of the evidence mentioned in the last minute, as contain the statements made by the engineers named in Mr. Lumsden's memorandum, be deemed as having been produced before the committee.

On motion of Mr. Macdonald it was

Ordered, That the engineers named by Mr. Lumsden in his memorandum be notified by the Clerk of the proceedings of the committee, and informed that the committee will give them an opportunity, on a day to be named, of being heard in connection therewith, if they so desire.

On motion of Mr. Macdonald it was

Resolved, That the committee recommend that they be authorized to employ 'Counsel for the Committee' to assist them in investigating the matters referred to them.

The committee adjourned till to-morrow at 2 o'clock p.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

THURSDAY, February 24, 1910.

The committee met at 2 o'clock p.m.

PRESENT:—Messrs. Geoffrion (chairman); Macdonald, Clarke, (Essex), Wilson (Laval), Barker, and Lennox—6.

The question of appointing counsel for the committee, as authorized by the House, was considered. After discussion it was

Resolved. That the committee meet on Tuesday, March 8, at 11 o'clock a.m., for the taking of evidence.

The Committee adjourned to the call of the chair.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

FRIDAY, March 4, 1910.

The committee met at 2.15 p.m.

PRESENT: Messrs. Geoffrion (in the chair), Macdonald, Clarke (Essex), Wilson (Laval), Barker, Lennox and Crothers.—7.

The minutes of the previous meeting were read and confirmed.

Discussion *re* the appointment of counsel for the committee was resumed.

Mr. Barker moved 'That it is the right and duty of the members of this committee who represent the opposition to nominate the counsel who shall prosecute this investigation in the public interest.'

And the question being put on the said motion, the committee divided as follows:—

YEAS: Messrs. Barker, Lennox and Crothers.—3.

NAYS: Messrs. Macdonald, Clarke and Wilson.—3.

The Chairman, Mr. Geoffrion, voted nay, and declared the motion lost.

Mr. Lennox then declared his intention of retiring from further service on the committee.

Mr. Macdonald moved that Mr. Wallace Nesbitt, K.C., be appointed as counsel for the committee for the purpose of conducting the investigation in the public interest.

After some discussion, Messrs. Barker and Crothers also declared their intention of retiring from further service on the committee.

After some further discussion, Messrs. Lennox, Barker and Crothers retired from the room.

And the question being put on Mr. Macdonald's motion for the appointment of Mr. Wallace Nesbitt as counsel for the committee, it was agreed to.

On motion of Mr. Macdonald, it was

Ordered, That the clerk do notify Mr. Nesbitt of his appointment as counsel for the committee, and that he be asked to state when he can be present for the purpose.

The committee adjourned till Tuesday, March 8, at 11 o'clock a.m.

Attest.

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

TUESDAY, March 8, 1910.

The committee met at 11 o'clock a.m.

PRESENT: Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex) and Wilson (Laval).—4.

The minutes of the last meeting were read and amended, and approved as amended.

The Clerk stated that he had notified Mr. Wallace Nesbitt, K.C., of his appointment as counsel for the committee, and had received a letter in reply, which was read. (*See* page 134 of the Evidence.)

On motion of Mr. Clarke, it was

Resolved, That in view of the position taken by Mr. Nesbitt, K.C., Mr. F. H Chrysler, K.C., of Ottawa, be appointed as counsel for the committee for the purpose of conducting the investigation in the interest of the public.

Mr. J. H. Moss, K.C., stated that he appeared at the request and on behalf of the engineers named by Mr. Lumsden in his statement (Exhibit No. 3) as being the engineers in whom he had lost confidence, &c.

On motion of Mr. Macdonald, it was

Resolved, That the said engineers have leave to appear before the committee through Mr. J. H. Moss, K.C., as their counsel.

Mr. Lumsden being asked by the Chairman if it were still his desire not to be represented by counsel replied in the affirmative.

The committee adjourned till Thursday next at 4 o'clock p.m.

Attest.

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

APPENDIX No. 3

THURSDAY, March 10, 1910.

The committee met at 4 o'clock p.m.

PRESENTS—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The minutes of the last meeting were read and confirmed.

Mr. CHRYSLER, K.C., asked permission to put in printed copies of letters as contained in the Hodgins Inquiry of 1908, and in Sessional Paper No. 42*a*, laid before the House during the present session, stating that the originals could be produced for purpose of identification if necessary.

On motion of Mr. Macdonald Mr. Chrysler's request was acceded to.

Mr. H. D. LUMSDEN was examined by Mr. Chrysler, K.C.

During the examination the following books and letters were filed and marked as exhibits:—

No. 4. Letter dated June 25, 1909—Lumsden to Hon. G. P. Graham.
" 4*a*. Letter dated June 25, 1909—Lumsden to Commissioners.
" 5. Letter dated June 26, 1909—Lumsden to Commissioners.
" 6. General Specifications, N. T. Railway.
" 7. General Instructions to Inquirers.
" 8. Letter dated September 24, 1907—Lumsden to Commissioners.
" 9. Letter dated September 26, 1907—P. E. Ryan to Lumsden.
" 10. Letter dated October 7, 1907—H. A. Woods to Lumsden.
" 11. Letter dated October 18, 1907—Lumsden to Commissioners.
" 12. Letter dated October 18, 1907—P. E. Ryan to Lumsden.
" 13. Letter dated October 30, 1907—Lumsden to Commissioners.
" 14. Letter dated November 11, 1907—Lumsden to Commissioners.
" 15. Letter dated November 23, 1907—P. E. Ryan to Hon. G. P. Graham.
" 16. Letter dated Dec. 5, 1907—Hon. G. P. Graham to Hon. S. N. Parent.
" 17. Letter dated December 16, 1907—Lumsden to Commissioners.
" 18. Letter dated Dec. 20, 1907—P. E. Ryan to Hon. A. B. Aylesworth.
" 19. Letter dated January 6, 1908—E. L. Newcombe to Commissioners.
" 20. Letter dated January 9, 1908—Lumsden to Commissioners.
" 20*a*. Diagram illustrating H. D. Lumsden's interpretation of specifications.
" 21. Letter dated January 30, 1908—Lumsden to A. E. Doucet.
" 22. Letter dated January 30, 1908—Lumsden to A. E. Doucet.
" 23. Letter dated April 24, 1908—Lumsden to Commissioners.
" 24. Letter dated October 8, 1908—Lumsden to Commissioners.

At 6 o'clock, p.m., the committee rose.

The committee resumed at 8.15 p.m.

Examination of Mr. Lumsden by Mr. Chrysler, K.C., was continued.

The following papers were filed as exhibits:—

No. 25. Letter dated July 8, 1908—H. A. Woods to Lumsden.
" 26. Letter dated March 16, 1909—Lumsden and Kelliher to Collingwood Schreiber.
" 27. Letter dated May 14, 1909 (with agreement)—E. J. Chamberlin to Lumsden.
" 28. Letter dated May 15, 1909—Lumsden to E. J. Chamberlin.

The examination in chief of Mr. Lumsden by Mr. Chrysler, K.C., was concluded.

The committee adjourned till to-morrow at 11.15 a.m.

Attest,

VICTOR GEOFFRION, *Chairman.*

WALTER TODD, *Clerk.*

FRIDAY, March 11, 1910.

The committee met at 11.15 a.m.

PRESENT:—Messrs. Geoffrion, (Chairman). Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The minutes of the last meeting were read and approved.

Mr. SMITH, K.C., examined Mr. Lumsden on behalf of the Commissioners.

The following papers were filed as exhibits:—

No. 30. Letter dated September 8, 1904.
" 31. Letter dated December 13, 1907.
" 32. Letter dated June 20, 1906.
" 33. Letter dated November 16, 1908.
" 34. Statement of names of engineers in cuts in District B., mentioned by Mr. Lumsden in his statement (Exhibit No. 2).
" 35. Similar statement regarding District F.

The committee adjourned till Tuesday, March 15, at 11 o'clock, a.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

TUESDAY, March 15, 1910.

The committee met at 11 o'clock a.m.

PRESENT:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex) and Wilson (Laval).—4.

The minutes of the last meeting were read and confirmed.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

The following papers were filed and marked as exhibits:—

No. 36.—Letter dated November 23, 1905, Lumsden to A. E. Doucet.
No. 37.—Letter dated November 9, 1907, A. E. Hodgins to S. N. Parent.
No. 38.—Letter dated November 19, 1907, Lumsden to S. N. Parent.
No. 39.—Letter dated August 24, 1907, S. N. Parent to Lumsden.
No. 40.—Letter dated August 24, 1907, Lumsden to A. E. Hodgins.
No. 41.—Letter dated November 21, 1907, S. N. Parent to A. E. Hodgins.

The committee rose at one o'clock p.m.

4 o'clock, p.m.

The committee resumed.

Examination of Mr. Lumsden by Mr. Smith, K.C., continued.

The following papers were filed and marked as exhibits:—

No. 42.—Letter of October 26, 1907, A. E. Doucet to Lumsden.
No. 43.—Letter of October 26, 1907, H. F. Huestis to A. E. Doucet.
No. 44.—Letter of October 26, 1907, C. L. Hervey to A. E. Doucet.
No. 45.—Declaration, October 26, 1907, B. Bourgeois.
No. 46.—Letter of October 26, 1907, A. R. Matthews to A. E. Doucet.
No. 47.—Opinion of Messrs. Shepley and Lafleur, K.Cs., *re* Classification.
No. 48.—Supplementary opinion of Messrs. Shepley and Lafleur, K.Cs., *re* Classification.
No. 49.—Opinion of Mr. C. H. Ritchie, K.C., *re* Classification.

APPENDIX No. 3

No. 50.—Opinion of Sir A. Lacoste, K.C., *re* Classification.
No. 51.—Opinion of Mr. S. Beaudin, K.C., *re* Classification.

The committee adjourned till to-morrow at 11 o'clock a.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

WEDNESDAY, March 16, 1910.

The committee met at 11 o'clock a.m.

PRESENT:—Messrs. Geoffrion (chairman); Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued:

The following exhibits were filed, viz.:

No. 52.—Opinion of Donald Macmaster, K.C., on specifications.
No. 53.—Opinion of Wallace Nesbitt, K.C., on specifications.

The committee adjourned till to-morrow at 3.30 o'clock, p.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

THURSDAY, March 17, 1910.

The committee met at 3.30 o'clock p.m.

PRESENT:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

Mr. Lumsden's examination by Mr. Smith, K.C., was continued.

The follow Exhibits were filed, viz.:—

No. 54 Letter February 20, 1908—H. A. Woods to H. D. Lumsden.
" 55 Letter January 14, 1908—H. D. Lumsden to A. E. Doucet.
" 56 Letter May 15, 1908—H. D. Lumsden to H. A. Woods.
" 57 Extract from Minutes of meeting of Commissioners at Ottawa on July 14, 1909.
" 58 Blue print showing sketch where boulders exist.

At the suggestion of Mr. Macdonald the Clerk, Mr. Todd, made a statement explanatory of the circumstances under which the words 'and reported to the House' were omitted from the Second Report of the committee presented to the House on the 22nd February last, though such words were included in the motion of Mr. Lennox as agreed to on that day, and on which the said Report was based. (For this statement *see* page 302 of the Evidence.)

Mr. Macdonald moved that the committee, in pursuance of the power to report from time to time conferred upon them by the Order of Reference, do consider the question of making a Report to the House, submitting their Proceedings to date, and that the clerk be directed to prepare the said Report and submit the same to the committee for its approval, which was agreed to.

The committee adjourned till to-morrow at 11 o'clock a.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

FRIDAY March 18, 1910.

The committee met at 11 o'clock a.m.

PRESENTS—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

On motion of Mr. Macdonald it was

Resolved—That the committee meet on Thursday, March 31, at 11 o'clock a.m. for the purpose of hearing further evidence, and on Monday, March 21, at 8.30 o'clock, p.m. for the purpose of considering the question of presenting an interim Report to the House.

The committee adjourned till Monday at 8.30 o'clock p.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

MONDAY, March 21, 1910.

The committee met at 8.30 o'clock p.m.

PRESENT:—Messrs. Geoffrion, (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The minutes of March 17 and 18 were read and confirmed.

On motion of Mr. Clarke it was

Resolved—That in pursuance of the power to report from time to time conferred by the Order of Reference, the committee do now report to the House its Proceedings, including the Evidence, up to and inclusive of this meeting.

Pursuant to the Resolution of the 17th instant, the Clerk laid on the table a draft Report submitting the Proceedings and Evidence to the House, which was adopted as the Report of the Committee and ordered to be presented on Tuesday, 22nd instant.

The committee adjourned till Thursday, March 31, at 11 o'clock a.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

THURSDAY, March 31, 1910.

The committee met at 11 o'clock, a.m.

PRESENTS—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval).—4.

The minutes of March 21 were read and confirmed.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

The following exhibits were filed:—

No. 59.—Letter May 20, 1909, H. D. Lumsden to A. G. Macfarlane.

No. 60.—Blue print, 'Form 4,' showing work done to May 31, 1908, from mile 139 to mile 150 in District F.

No. 61.—Letter September 21, 1908, H. D. Lumsden to A. E. Doucet.

APPENDIX No. 3

No. 62.—Letter September 23, 1908, H. D. Lumsden to A. E. Doucet.

Committee adjourned till to-morrow.

Attest, WALTER TODD,
Clerk.

FRIDAY, April 1, 1910.

The committee met at 11 o'clock a.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval).—4.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

The committee adjourned till Monday at 4 o'clock p.m.

Attest, WALTER TODD,
Clerk.

MONDAY, April 4, 1910.

The committee met at 4 o'clock p.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex) and Wilson (Laval).—4.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

At six o'clock the committee rose.

8.30 p.m.

The committee resumed.

The examination of Mr. Lumsden by Mr. Smith, K.C., was continued.

The following exhibits were filed:—

No. 63.—Circular letter of H. D. Lumsden, dated February 11, 1909, *re* "overbreak in rock cuttings.'

No. 64.—Letter dated 25th February, 1909. H. A. Woods to H. D. Lumsden.

The committee adjourned till Tuesday, April 12, at 11 o'clock a.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

TUESDAY, April 12, 1910.

The committee met at 11 o'clock a.m.

Present—Messrs. Geoffrion (Chairman); Macdonald, Clarke (Essex) and Wilson (Laval), 4.

The examination in chief of Mr. Hugh D. Lumsden by Mr. Smith, K.C., was concluded.

The committee rose at 1 o'clock p.m.

April 12, 3.30 p.m.

The committee resumed.

Mr. Hugh D. Lumsden was examined by Mr. Moss, K.C.

The committee rose at 6 p.m.

April 12, 8.15 p.m.

The committee resumed.

Examination of Mr. Lumsden by Mr. Moss, K.C., was continued.

The following exhibits were filed:

No. 65, photograph of cut at station 6034 to 6040 at La Tuque after blasting.
No. 66, photograph of cut at station 6034 to 6040 after slope was dressed.
No. 67, photograph of cut at station 6040 being taken down to grade.
No. 68, photograph of cut at station 6040 showing other end of cut.
No. 69, photograph of cut at station 6040 showing second lift.

Mr. A. E. Doucet, C.E., was sworn and identified the foregoing exhibits.

The committee adjourned till to-morrow at 11 o'clock a.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

WEDNESDAY, April 13, 1910.

The committee met at 11 o'clock a.m.

PRESENT:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval).—4.

The examination of Mr. Hugh D. Lumsden by Mr. Moss, K.C., was continued.

The following exhibits were filed:—

No. 70 Cross Section Sheet No. 16, Residency No. 19, District F.
No. 71 " " 17 " No. 19 "
No. 72 " " 14 " No. 19 "

The committee rose at 1 o'clock p.m.

3.30 p.m.

The committee resumed.

The examination of Mr. Lumsden by Mr. Moss, K.C., was continued.

The following exhibits were filed:—

No. 73.—Letter June 22, 1909, S. R. Poulin to Hon. Mr. Parent.
No. 74.—Letter June 23, 1909, A. E. Doucet to Hon. Mr. Parent.

The Committee rose at 6 o'clock p.m.

APPENDIX No. 3

April 13, 8.30 p.m

The committee resumed.

Mr. Gordon Grant, Chief Engineer, Transcontinental Railway, was sworn and examined by Mr. Chrysler, K.C., and Mr. Smith, K.C.

The following exhibits were produced:—

No. 75 Letter August 24, 1909, Gordon Grant to Commissioners.
No. 76 Diagram re overbreak.
No. 77 Letter Sept 14, 1909, Gordon Grant to Commissioners.
No. 78 " 20, 1909 " "

The Committee adjourned till tomorrow at 11 o'clock, a.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

THURSDAY, April 14, 1910.

The committee met at 11 o'clock, a.m.

PRESENT:—Messrs. Geoffrion (chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

Mr. Hugh D. Lumsden was further examined by Messrs. Chrysler and Smith, K.C.'s, and his examination-in-chief closed.

The following exhibits were filed:—

No. 79. Notes of arbitration trip, District 'B,' by H. E. Huestis, C.E.

No. 80. Sketch showing grade line and surface line on profiles, and illustrating how errors might be made in estimating quantities from profiles.

No. 82. Letter, May 17, 1909, Mr. Lumsden to Mr. Schreiber.

The committee rose at 1 o'clock, p.m.

3.30 p.m.

The committee resumed.

Mr. Gordon Grant's examination was resumed.

The following exhibits were filed:—

No. 83. Sketch illustrating side hill work on St. Maurice river.

No. 84. Statement of estimated quantities of solid rock, &c., and actual quantities of each returned to December 31, 1909.

The committee adjourned till to-morrow.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

FRIDAY, April 15, 1910.

The committee met at 11 o'clock, a.m.

PRESENT: Messrs. Geoffrion (chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

Mr. A. E. Doucet, district engineer of 'B' was examined by Mr. Chrysler.

The following exhibits were filed:—

No. 85. Statement showing districts, mileages and work done to December 31, 1909.

No. 86. Letter February 1, 1908, A. E. Doucet to H. D. Lumsden.

No. 87. Letter February 19, 1908, H. D. Lumsden to A. E. Doucet.

No. 88. Letter February 20, 1908, A. E. Doucet to H. D. Lumsden.

No. 89. Sketch showing cross-section of cemented boulders or rock in masses.

The committee adjourned till Monday next, at 3.30 p.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

MONDAY, April 18, 1910.

The committee met at 3.30 p.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald and Clarke (Essex).—3.

The examination of Mr. A. E. Doucet, C.E., by Mr. Chrysler, was continued.

The following exhibits were filed:—

No. 90.—Blue print of imaginary cross-sections, sent by Mr. Huestis to Mr. Doucet.

No 91.—Letter, January 27, 1908, H. E. Huestis to A. E. Doucet, inclosing foregoing blue print.

No. 92.—Blue print showing actual measurements in prisms, overbreaks, &c.

No. 93.—Blue print showing cross-sections at stations 5322-25 to 5338.

No. 94.—Comparative statement of original and remeasured quantities in cut 5324 to 5328.

No. 95.—Three blue prints showing cross-sections on whole of cutting at stations 6824 to 6830.

No. 96.—Six blue prints showing cross-sections at stations 6947 to 6959.

No. 97.—Five blue prints showing cross-sections at stations 6761-6770.

No. 98.—Statement of cuts mentioned by Mr. Lumsden.

The committee rose at 6 p.m.

8.30 p.m.

The examination of Mr. Doucet was continued by Mr. Chrysler and Mr. Moss.

The following exhibits were filed:—

No. 99.—Part of profile of District 'B,' illustrating difference between quantities calculated from surface at centre line and height inside slope on hill-side work.

No. 100.—Comparative statement of cost of 150 miles west from Quebec Bridge as between estimates of 1906 and final estimates of 1909.

No. 101.—Extract from 'Toronto Mail' *re* reconstruction of T. & N. O. Railway line in vicinity of North Bay .

No. 102.—Affidavit of June 19, 1908, of Mr. Armstrong, C.E., *re* classification in District 'B.'

Mr. Doucet's examination in chief was concluded.

The committee adjourned till to-morrow at 11.30 a.m.

Attest,

VICTOR GEOFFRION, *Chairman.* WALTER TODD, *Clerk.*

APPENDIX No. 3

TUESDAY, April 19, 1910.

The committee met at 11.30 a.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval).—4.

Mr. H. E. Huestis, Assistant District Engineer of 'B,' was sworn and examined.

The following exhibits were filed:—

No. 103.—Four photographs showing 'gravel' or cemented material at La Tuque.
No. 104.—Photograph showing different lifts in cutting.

The committee rose at 1 o'clock.

3.30 p.m.

Mr. Huestis' examination was concluded.

Mr. A. E. Doucet was recalled and further examined by Mr. Macdonald.

Mr. S. R. Poulin, District Engineer of 'F' was sworn and examined by Mr. Chrysler.

The committee rose at 6 o'clock.

8.30 p.m.

Mr. Poulin's examination was continued.

The following exhibits were filed:—

No. 105.—Circular Major Hodgins to Divisional Engineers on 'F,' dated February, 1907.
No. 106.—Letter, Nov. 8, 1907, S. R. Poulin to H. D. Lumsden.
No. 107.—Letter, S. R. Poulin to Divisional Engineers on 'F,' dated February 4, 1908.

The Committee adjourned till to-morrow at 11.15 o'clock a.m.

VICTOR GEOFFRION, *Chairman.* Attest, WALTER TODD, *Clerk.*

WEDNESDAY, April 20, 1910.

The committee met at 11.15 a.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald and Wilson (Laval).—3.

The examination of Mr. Poulin was continued.

The following exhibits were filed:—

No. 108.—Six photographs, Residency 24, District 'F,' showing difference in slopes immediately after removal of material and after completion.
No. 109.—Two photographs showing indurated clay and loose rock.
No. 110.—Photograph showing indurated clay after rain.
No. 111.—Comparative statement engineers' estimate in 'F' for S.R., L.R., C.E., and T. F., McArthur contract.
No. 112.—Comparative statement of estimated cost (1906) and actual cost of construction, McArthur contract, District 'F.'
No. 113.—List of items omitted in Hodgins' original estimate and included in Poulin's estimate of January 11, 1908.

The committee rose at 1 o'clock.

3.30 p.m.

Examination of Mr. S. R. Poulin continued.

The following exhibits were filed:—

No. 114.—Comparison of estimated cost of portions of C. P. Railway with actual amount paid to contractors.

No. 115.—Evidence as amended given by Mr. Poulin before arbitrators.

The committee rose at 6 p.m.

8.30 p.m.

Examination of Mr. Poulin was concluded.

George F. Richan, C.E., divisional engineer, 5 and 6 in 'F,' was sworn and examined by Mr. Chrysler.

The Committee adjourned till to-morrow at 11.15 a.m.

Attest,

VICTOR GEOFFRION,
Chairman.

WALTER TODD,
Clerk.

THURSDAY, April 21, 1910.

The committee met at 11.15 a.m.

Present:—Messrs. Geoffrion, Macdonald, Clarke (Essex), and Wilson (Laval) —4.

The examination of Mr. Richan was concluded.

Mr. A. E. Doucet was recalled and further examined.

The committee rose at 1 o'clock p.m.

3.30 p.m.

The committee resumed.

Mr. J. A. Polkinghorne, Clerk of Sessional Papers, was sworn, and submitted a list of Returns made during the present session regarding the Transcontinental Railway, of which the following were produced, viz.: Nos. 42-h, 42-i, and 42-j, and the remaining numbers were ordered to be procured as soon as possible and sent to the Clerk of the Committee.

Mr. S. R. Poulin was recalled and further examined.

The following exhibits were filed:—

No. 116.—Comparative statement of estimate of January 11, 1908, and previous estimate, marked 'Final location,' District 'F.'

No. 117.—Comparative statement engineers' estimate of 1908 and cost of construction, McArthur contract, District 'F.'

Mr. G. F. Richan was recalled and further examined.

The following exhibit was produced:—

No. 118.—List of cuttings and borrow pits in Division 5, District 'F,' mentioned in Mr. Lumsden's memorandum.

Mr. H. B. Cressman, resident engineer on Residency No. 28, Division No. 7, District 'B,' was sworn and examined.

The committee rose at 6 o'clock p.m.

APPENDIX No. 3

8.30 P.M.

The committee resumed.

Mr. S. R. Poulin, district engineer of 'F,' was recalled and further examined.

The following exhibit was filed:—

119.—List of cuts in District 'F,' mentioned in Mr. Lumsden's memorandum, exclusive of Division No. 5.

Mr. H. B. Cressman's examination was continued.

The committee adjourned till to-morrow at 11 o'clock.

Attest,

WALTER TODD,

Clerk.

FRIDAY, April 22, 1910.

The Committee met at 11 o'clock a.m.

Present:—Messrs. Geoffrion (Chairman), Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The examination of Mr. H. B. Cressman was concluded.

The Committee adjourned till Tuesday, 26th inst., at 11.30 a.m.

Attest,

WALTER TODD,

Clerk.

TUESDAY, April 26, 1910.

The committee met at 11.30 a.m.

Present:—Messrs. Geoffrion (Chairman); Macdonald, Clarke (Essex), and Wilson (Laval)—4.

On motion of Mr. Macdonald, it was

Ordered, That a telegram be sent immediately to Mr. H. A Woods, assistant chief engineer, Grand Trunk Pacific Railway Company, requiring his attendance at the meeting of the committee this evening.

On motion of Mr. Macdonald, it was

Ordered, That a telegram be sent to Mr. H. D. Lumsden, informing him that the taking of evidence will be closed to-morrow, and asking him if he desires to make any further statement.

The committee adjourned till 8.30 p.m. this day.

April 26, 1910.

The committee met at 8.30 p.m.

Present:—Messrs. Geoffrion (Chairman); Macdonald, Clarke (Essex), and Wilson (Laval)—4.

The Clerk reported that he had received a telegram from Mr. H. A. Woods that he was unable to leave Montreal to-day, but would endeavour to do so to-morrow afternoon. Also that he had, under instructions from the Chairman, wired Mr. Woods again to be present to-morrow without fail.

Mr. Charles J. Jones, secretary to Mr. Lumsden at the time of the arbitration tour, was sworn and examined, and discharged from further attendance.

Mr. Gordon Grant, C.E., was recalled and further examined, and discharged from further attendance.

The committee adjourned till to-morrow at noon.

Attest, WALTER TODD,
Clerk.

WEDNESDAY, April 27, 1910.

The committee met at noon.

Present:—Messrs. Geoffrion (Chairman); Macdonald, Clarke (Essex), and Wilson (Laval)—4.

Mr. P. E. Ryan, secretary to the Transcontinental Railway Commission, was sworn and examined, and discharged from further attendance.

The Clerk reported the receipt of a telegram from Mr. H. A. Woods, that he would arrive in Ottawa by the evening train and be in attendance upon the committee.

The committee adjourned till 8.30 p.m.

Attest, WALTER TODD,
Clerk.

WEDNESDAY, April 27, 1910.

The committee met at 8.30 p.m.

Present:—Messrs. Geoffrion (Chairman); Macdonald, Clarke (Essex), and Wilson (Laval)—4.

Mr. H. A. Woods, assistant chief engineer, Grand Trunk Pacific Railway, was sworn and examined, and discharged from further attendance.

Letter of Allan R. Matthews, resident engineer of Residency 26, District 'B,' dated October 26, 1907, to A. E. Doucet, district engineer of 'B,' was filed as Exhibit No. 120.

Mr. Chrysler stated that he had notified Mr. Lumsden of the meeting to-night, in order that he might be present to make any further statement he might desire to make, but he was under the impression that Mr. Lumsden was out of town.

The Clerk stated that he had ascertained from Mrs. Lumsden yesterday that her husband, so far as she knew, was at the Chateau Frontenac, Quebec, but might be on the way home; that he had wired to Mr. Lumsden at Quebec, but had received no reply. That he had telephoned to Mr. Lumsden's house to-day, and ascertained that he was expected home this evening, and that he (the Clerk) had left word for Mr. Lumsden to ring him up as soon as he returned, but that he had not done so yet.

The committee adjourned till to-morrow at 10.30 a.m.

Attest, WALTER TODD,
Clerk.

APPENDIX No. 3

THURSDAY, April 28, 1910.

The committee met at 10.30 a.m.

PRESENTS—Messrs. Geoffrion (chairman), Macdonald, Clarke (Essex), and Wilson (Laval).—4.

A Factum prepared by Mr. F. H. Chrysler, K.C., was laid on the table and ordered to be printed in the proceedings. (For this Factum *see* page 21.)

The chairman submitted a draft form of Report, embodying the findings of the committee on the matters referred to them, which was read.

On motion of Mr. Macdonald, it was

Resolved, That the above draft Report be adopted as the report of the committee.

Ordered, That the Report of the committee as adopted be presented to the House this day, together with the exhibits, and minutes of proceedings and evidence not already laid on the Table of the House, viz., from March 31 to April 28, both inclusive. (For this report *see* Fifth Report of the Committee, page 8.)

The committee adjourned to the call of the Chair.

Attest,

VICTOR GEOFFRIN,
Chairman.

WALTER TODD,
Clerk.

TUESDAY, May 3, 1910.

The committee met at noon.

PRESENT:—Messrs. Geoffrion (chairman); Macdonald and Wilson (Laval)—3.

The clerk reported the receipt of a letter from Mr. Lumsden explaining that the notice of the last meeting of the Committee for the taking of evidence (April 27) had not been received by him until the 28th April upon his return to Ottawa after a week's absence, hence the reason for his not being present at that meeting.

On motion of Mr. Macdonald, it was

Resolved, That in the opiniin of the committee it is desirable that the House should pay proper and reasonable fees to the counsel representing the Transcontinental Railway Commissioners, and to the counsel representing the engineers before the committee in this case, and that a report recommending such payments be presented in the House by the chairman.

On motion of Mr. Wilson (Laval), it was

Ordered, That the following engineers who gave evidence before the committee though not formally summoned to appear, be paid the usual allowance and expenses made to witnesses before parliamentary committees, viz.: A. E. Doucet, C.E., Quebec; S. R. Poulin, C.E., Winnipeg; H. F. Huestis, C.E., Quebec; George F. Richan, C.E., Wabigoon Falls, Ont., and H. B. Cressman, Quebec.

A letter having been read from Mr. Lumsden asking for remuneration for loss of time occupied in attendance before the committee, on motion of Mr. Macdonald, it was

Resolved, That a report be made to the House recommending the payment of compensation to Mr. Lumsden for a period of 23 days, on the basis of the salary received by him as Chief Engineer of the Transcontinental Railway, viz.: $6,000 per annum.

On motion of Mr. Macdonald, it was

Ordered, That the accounts of Mr. Bengough for stenographic work in connection with the preparation of the Factum of Counsel and the Report of the Committee be certified by the clerk for payment.

The committee adjourned.

Attest,

VICTOR GEOFFRIN,
Chairman.

WALTER TODD,
Clerk.

LUMSDEN INQUIRY.

SYNOPSIS OF EXHIBITS.

No.	Date.	Writer.	Subject.
1	.....	H. D. Lumsden.....	Memo. giving his reasons for resigning his position of Chief Engineer of the Transcontinental Railway. (Printed on Page 71 of the evidence.)
2	....	"	Statement (illustrative) of places where material returned as solid rock should have been loose rock or common excavation. (Printed on Page 79 of the evidence.)
3	1910. Feb. 23...	"	List of engineers on sections B and F in whom he lost confidence. (Printed on Page 92 of the evidence.)
3(a)	.....	"	Statements made under oath by engineers referred to as being responsible for improper classification, &c. (Printed on Page 93 of the evidence.)
4	1909. June 25...	"	Letter to Minister of Railways, inclosing copy of letter addressed Commissioners of the Transcontinental Railway and requesting to be relieved of the duties of Chief Engineer. (Printed on Page 137 of the evidence.)
4a	June 25...	"	Letter to Commissioners, Transcontinental Railway resigning position as Chief Engineer. (Printed on Page 138 of the evidence).
5	June 26...	"	Letter to Commissioners of the Transcontinental Railway, intimating that his loss of confidence in the engineering staff only applied to a portion of the staff. (Printed on Page 138 of the evidence.)
6	.....	....	Specifications (general) and form of tender and contract (1909). (Referred to on Page 139 of the evidence).
7	.....	.....	Booklet containing general instructions to civil engineers concerning surveys and construction. (Referred to on Page 142 of the evidence.)
8	1907. Sept. 24...	"	Letter to Commissioners Transcontinental Railway *re* situation in District 'F,' and recommends appointment of S. R. Poulin as successor to A. E. Hodgins and G. O. Foss, as his assistant. (Printed on Page 145 of the evidence.)
9	Sept. 26...	Sec. Nat. Trans. Ry	Letter to H. D. Lumsden, communicating Boards approval of foregoing recommendation. (Printed on Page 147 of the evidence.)
10	Oct. 7...	H. A. Woods.....	Letter to H. D. Lumsden, protesting against classification of material on District 'B.' (Printed on Page 148 of the evidence.)
11	Oct. 18...	H. D. Lumsden.....	Letter to Commissioners Transcontinental Railway, inclosing September estimate in District 'B,' and giving reasons for his approval thereof. (Printed on Page 149 of the evidence.)
12	Oct. 18...	Sec. Nat. Trans. Ry ...	Letter to H. D. Lumsden, advising him of approval by Board of September estimates. (Printed on Page 150 of the evidence.)
13	Oct. 30...	H. D. Lumsden..... ..	Letter to Commissioners Transcontinental Railway, reporting *re* his visit to La Tuque. (Printed on Page 151 of the evidence.)
14	Nov. 11...	"	Letter to Commissioners Transcontineneal Railway, stating he will approve of October estimates under certain conditions. (Printed on Page 153 of the evidence.)
15	Nov. 23...	Sec. Trans. Ry.....	Letter to the Hon. Minister of Railways transmitting correspondence *re* complaint made to Chief Engineer (H. D. L.) by the Assistant Engineer Grand Trunk Pacific Railway Company as to classification in District 'B.' (Printed on Page 154 of the evidence.)

SYNOPSIS OF EXHIBITS—*Continued.*

No.	Date.	Writer.	Subject.
16	1907. Dec. 5...	Hon. Minister Railways.	Letter to Chairman Transcontinental Railway returning correspondence bearing upon the classification of work, with request that Commissioners take such action as seems to them necessary. (Printed on Page 155 of the evidence.)
17	Dec. 16...	H. D. Lumsden.....	Letter to Commissioners Transcontinental Railway submitting his interpretation of specifications. (Printed on Page 156 of the evidence.)
18	Dec. 20...	Sec. Trans. Ry.....	Letter to Hon. Minister of Justice submitting correspondence *re* complaint made to Chief Engineer (H. D. L.) by Assistant Grand Trunk Pacific Railway Company, as regards classification, and requesting interpretation of certain clauses of specifications for construction. (Printed on Page 157 of the evidence.)
19	1908. Jan. 6...	Deputy Minister Justice.	Letter to Secretary Transcontinental Commissioners giving his interpretation of specifications. (Printed on Page 158 of the evidence.)
20	Jan. 9...	H. D. Lumsden.....	Letter to Commissioners Transcontinental Railway giving his revised interpretation of specification. (Printed on Page 159 of the evidence).
20a	.....	....	Diagram illustrating Chief Engineer's (H. D. L.) interpretation of specifications. (Printed on Page 160 of the evidence.)
21	Jan. 30...	H. D. Lumsden..... ...	Letter to A. E. Doucet inclosing copy of his interpretation of specifications and requesting to be informed whether classification in his district conforms to such interpretation. (Printed on Page 161 of the evidence.)
22	Jan. 30...	"	Letter to A. E. Doucet stating that actual measurements must be made as a rule of all work. (Printed on Page 163 of the evidence.)
23	April 24...	"	Letter to Commissioners Transcontinental Railway communicating letters received from Assistant Chief Engineer Grand Trunk Pacific Railway Company (H. A. Woods) protesting to the classification on about 153 miles of District 'F.' (Printed on Page 164 of the evidence.)
24	Oct. 8...	"	Letter to Commissioners Transcontinental Railway Company stating he wrote Assistant Chief Engineer Grand Trunk Pacific Railway Company suggesting certain names to act as third arbitrator. (Printed on Page 165 of the evidence.)
25	July 8...	H. A. Woods..	Letter to H. D. Lumsden stating Grand Trunk Pacific Railway Company still vigorously protests to the classification as returned to date. (Printed on Page 167 of the evidence.)
26	1909. Mar. 16...	H. D. Lumsden and B. B. Kelliher.	Letter to C. Schreiber requesting him to act as third arbitrator for the determination of questions now in dispute between them. (Printed on Page 171 of the evidence.)
27	May 14...	E. J. Chamberlin.... ..	Letter to H. D. Lumsden inclosing for signature form of agreement covering matters to be arbitrated, pertaining to the Eastern Division. (Printed on Page 172 of the evidence.)
28	May 15...	H. D. Lumsden.....	Letter to E. J. Chamberlin acknowledging foregoing and stating that Commissioners consider that execution of such agreement is unnecessary and all that is required is for the three engineers to arbitrate matters of classification, &c. (Printed on Page 174 of the evidence.)
30	1904. Sept. 8...	"	Letter to Commissioners, Transcontinental Railway, recommending appointment of M. J. Butler, A. E. Doucet, A. E. Molesworth, Bourgeois, Gordon, Miles, Malloch, Hoare, and Foss. (Printed on Page 191 of the evidence.)
31	1907. Dec. 13...	"	Letters to Commissioners, Transcontinental Railway, inclosing copies of list of changes in the Engineering Staff. (Printed on Page 192 of the evidence.)
32	1906. June 20...	"	Letter to Commissioners, Transcontinental Railway, recommending appointments of Divisional and Resident Engineers in District 'F.' (Printed on Page 192 of the evidence.)

APPENDIX No. 3

SYNOPSIS OF EXHIBITS—*Continued.*

No.	Date.	Writer.	Subject.
33	1908. Nov. 16...	H. D. Lumsden.....	Letter to Commissioners, Transcontinental Railway, submitting for approval letter from District Engineer Poulin, recommending certain appointments. (Printed on Page 193 of the evidence).
34	.....	....	Statement of names of engineers in cuts in District 'B' mentioned by H. D. Lumsden in his statement (exhibit No. 2). (Printed on Page 195 of the evidence.)
35	....	....	Statement similar to the foregoing regarding District 'F.' (Printed on Page 199 of the evidence.)
36	1905. Nov. 23...	H. D. Lumsden.....	Letter to A. E. Doucet requesting to be supplied with plans and profiles and quantities to cover 100 miles westerly from Quebec Bridge. (Printed on Page 211 of the evidence.)
37	1907. Nov. 9...	A. E. Hodgins.....	Letter to Chairman, Transcontinental Railway, anent his dismissal. (Printed on page 217 of the evidence.)
38	Nov. 19...	Hugh D. Lumsden.....	Letter to Chairman, Transcontinental Railway, stating that Major Hodgins took responsibility of issuing instructions to his Division Engineers without authority. (Printed on Page 219 of the evidence.)
39	Aug. 24...	Chairman, Transcontinental Railway.....	Letter to H. D. Lumsden inclosing copy of memo. sent secretary of Board *re* unsatisfactory progress of work in District 'F.' (Printed on Page 220 of the evidence.)
40	Aug. 24...	H. D. Lumsden..... ..	Letter to A. E. Hodgins confirming cypher telegram stating that classification must be as per contract and specifications. (Printed on Page 222 of the evidence.)
41	Nov. 21...	Chairman, Transcontinental Railway.....	Letter to A. E. Hodgins inclosing copy of H. D. Lumsden's reply to his letter. (Printed on Page 223 of the evidence.)
42	Oct. 26...	A. E. Doucet..... ...	Letter to H. D. Lumsden communicating interpretation of engineers in District 'B' placed on classification of solid and loose rock. (Printed on Page 232 of the evidence.)
43	Oct. 26...	H. E. Huestis	Letter to A. E. Doucet communicating his interpretation of specifications. (Printed on Page 233 of the evidence.)
44	Oct. 26...	C. L. Hervey..... ...	Letter to A. E. Doucet, same as foregoing. (Printed on Page 235 of the evidence.)
45	Oct. 26...	B. Bourgeois.....	Letter to A. E. Doucet, same as foregoing. (Printed on Page 236 of the evidence.)
46	Oct. 26...	A. R. Matthews	Letter to A. E. Doucet, same as foregoing. (Printed on Pages 240 and 771 of the evidence.)
47	Nov. 9...	G. P. Shepley..... E. Lafleur..... .	Letter to M. P. Davis giving their interpretation of certain clauses of specifications. (Printed on Page 245 of the evidence.)
48	Nov. 13...	"	Letter to M. P. Davis expressing their views as to the classification of loose rock made by local engineers in District 'B.' (Printed on Page 248 of the evidence.)
49	Nov. 12...	C. H. Ritchie.....	Letter to M. P. Davis giving his interpretation of specifications. (Printed on Page 248 of the evidence.)
50	Nov. 20 .	Sir A. Lacoste..... ...	Letter to M. P. Davis, same as foregoing. (Printed on Page 254 of the evidence.)
51	Nov. 18...	S. Beaudin..	Letter to M. P. Davis, same as foregoing, (Printed on Page 259 of the evidence).
52	Oct. 31...	D. MacMaster.....	Letter to M. P. Davis, same as foregoing. (Printed on page 259 of the evidence.)
53	Nov. 26...	W. Nesbitt...	Letter to Macdonald & O'Brien, same as foregoing. (Printed on Page 263 of the evidence.)
54	1908. Feb. 20...	H. A. Woods.....	Letter to H. D. Lumsden acknowledging receipt of latter's interpretation of specifications which is satisfactory. (Printed on Page 281 of the evidence.)
55	Jan. 14...	H. D. Lumsden.....	Letter to A. E. Doucet inclosing copy of his interpretation of specifications and requesting to be informed whether classification in his district conforms to such interpretation. (Printed on Page 282 of the evidence.)
56	May 15...	"	Letter to H. A. Woods stating that if after examination of cutting classification therof appeared excessive he would not be prepared to ignore classification made by Engineer. (Printed on Page 292 of the evidence.)

SYNOPSIS OF EXHIBITS—*Continued.*

No.	Date.	Writer.	Subject.
	1909.		
57	July 14...	.....	Extract (certified) from minutes of meeting of Commissioners. (Printed on Page 293 of the evidence.)
58	.....	.....	Sketch showing where boulders exist. (Referred to on Page 300; Printed opposite Page 566.)
59	May 20...	H. D. Lumsden.....	Letter to A. G. McFarlane stating that frozen portions of material may, in some cases and when approved by him, be classified as loose rock or cemented material. (Printed on Page 322 of the evidence.)
60	.....	.....	Blue Print 'Form 4' showing work done to May 31, 1908, from mile 139 to mile 150 in District F. (Referred to on Page 334 of the evidence.)
	1908.		
61	Sept. 21...	A. E. Doucet.....	Letter to H. D. Lumsden stating it would be unwise to send out to Engineers forms with item 'frozen material' thereon. (Printed on Page 335 of the evidence.)
62	Sept. 23...	H. D. Lumsden.....	Letter to A. E. Doucet stating that instructions have been given to have the words 'frozen material' eliminated from form. (Printed on Page 335 of the evidence.)
	1909.		
63	Feb. 11...	"	Letter (Circular) to Engineers explaining meaning of term 'overbreak.' (Printed on Page 395 of the evidence.)
64	Feb. 25...	H. A. Woods.....	Letter to H. D. Lumsden stating the explanation of term 'overbreak' is satisfactory. (Printed on Page 397 of the evidence.)
65	.....	.....	Photograph of cut at station 5992-5991 at La Tuque after blasting has taken place. (Inserted between Pages 441 and 442 of the evidence.)
66	.....	.....	Photograph of cut at station 6034 to 6040 after slope was dressed. (Inserted between Pages 441 and 442 of the evidence.)
67	.....	.....	Photograph showing cut at station 6040 in the process of being taken down to grade. (Inserted between Pages 441 and 442 of the evidence.)
68	.....	.....	Photograph of cut at station 6040 showing other end of cut. (Inserted between Pages 441 and 442 of the evidence.)
69	.....	.....	Photograph of cut at station 6040 showing second lift. (Inserted between Pages 442 and 443 of the evidence.)
70	.....	.....	Cross Section sheet No. 16 Residency No. 19 District 'F' (Final Sections.) (Referred to on 456 of the evidence.)
71	.....	.....	Cross Section Sheet No. 17 Residency No. 19 District 'F' (Final Sections.) (Referred to on Page 456 of the evidence.)
72	.....	.....	Cross Section Sheet No. 14 Residency No. 19 District 'F' (Final Sections.) (Referred to on Page 463 of the evidence.)
	1909.		
73	June 22...	S. R. Poulin.....	Letter to Chairman Transcontinental Railway protesting against the manner in which inspection was made by Arbitrators in District 'F' as being altogether inadequate and superficial. (Printed on Page 483 of the evidence.)
74	June 23..	A. E. Doucet.....	Letter to Chairman Transcontinental Railway Com. re hasty inspection of District 'B' made by Board of Arbitrators. (Printed on Page 488 of the evidence.)
75	Aug. 24..	G. Grant	Letter to Commissioners Transcontinental Railway reporting re overbreak classification, &c., District 'F.' (Printed on Pages 495, 501 and 502 of the evidence.)
76	.....	.....	Diagram illustrating avoidable and unavoidable overbreak. (Printed opposite Page 500 of the evidence.)
	1909,		
77	Sept. 14..	G. Grant.....	Letter to Commissioners Transcontinental Railway, stating that deductions to be made on the J. B. McArthur contract, District 'F,' for over returns in the matter of overbreak and over classification, will be approximately $370,000. (Printed on Page 505 of the evidence.)
78	Sept. 20...	"	Letter to Commissioners Transcontinental Railway, stating that the amount mentioned in foregoing letter per overbreak, &c., to be deducted is reduced to $359,488.96. (Printed on Page 506 of the evidence.)
79	June 23...	H. E. Huestis.....	Notes of Arbitration trip District 'B.' (Printed on Page 514 of the evidence.)

APPENDIX No. 3

SYNOPSIS OF EXHIBITS—*Continued.*

No.	Date.	Writer.	Subject.
80	.....	.....	Sketch showing grade line and surface line on profiles and illustrating how errors might be made in estimating quantities from profiles. (Printed opposite Page 525 of the evidence.)
82	1909. May 17...	H. D. Lumsden.	Letter to C. Schrieber inclosing copy of proposed agreement as submitted by E. J. Chamberlin. (Printed on Page 530 of the evidence.)
83	.....	....	Diagram illustrating side hill work on St. Maurice River. (Printed opposite to Page 546 of the evidence.)
84	... .	....	Statement Engineer's estimated quantities of solid rock, loose rock, and common excavation ; and actual quantities of each returned to December 31, 1909. (Printed on Page 548 of the evidence.)
85	... .	.....	Statement showing Districts, mileages, &c., and amount of sundry items of work done to December 31, 1909. (Printed on Page 556 of the evidence.)
86	1908. Feb. 1...	A. E. Doucet.....	Letter to H. D. Lumsden stating that instructions contained in latter's letter of 30th January, 1908, re interpretation of specifications, will be sent to Engineers. (Printed on Page 563 of the evidence.)
87	Feb. 19...	H. D. Lumsden.....	Letter to A. E. Doucet requesting a reply to his letter as to whether classification in latter's District conforms to his interpretation. (Printed on Page 563 of the evidence.)
88	Feb. 20. .	A. E. Doucet.....	Letter to H. D. Lumsden stating that classification in District 'B' conforms to latter's interpretation. (Printed on Page 564 of the evidence.)
89	... .	....	Sketch showing cross section of cemented boulders or rock in masses. (Printed opposite Page 566 of the evidence.)
90	.. ..	....	Blue-print of imaginary cross sections, sent by H. E. Huestis to A. E. Doucet showing loose rock, massed material and boulders. (Referred to on Page 576 of the evidence.)
91	Jan. 27...	H. E. Huestis	Letter to A. E. Doucet inclosing foregoing blue-print and requesting to be informed how the Engineers are to be guided if latest instructions of H. D. Lumsden are to be carried out. (Printed on Page 576 of the evidence.)
92	.....	....	Blue print (Sheet No. 49) District 'B,' Div. 5, Residency 21, showing actual measurements in prisms, overbreaks, &c. (Referred to on Page 580 of the evidence.)
93	....	... .	Blue-print showing cross sections at stations 5322-25 to 5338 District 'B,' Div. 6, Residency 25. (Referred to on Page 581 of the evidence.)
94	....	....	Statement (comparative) of original and re-measured quantities in cut 5324 to 5328 Section 'B.' (Printed on Page 585 of the evidence.)
95	... .	....	Blue-print (3) showing cross-sections on whole of cutting at station 6824-6830, District 'B,' Div. 7, Residency 28. (Referred to on Page 587 of the evidence.)
96	..... .	.. ..	Blue-prints (6) showing cross sections at stations 6947-6959, District 'B,' Div. 7, Residency 28. (Referred to on Page 588 of the evidence.)
97	..... .	.....	Blue-prints (5) showing cross-sections at stations 6761-6770, District 'B,' Div. 7, Residency 28. (Referred to on Page 591 of the evidence.)
98	....	....	Statement showing cuts mentioned by Hugh D. Lumsden. (Printed on Page 594 of the evidence.)
99	... .	....	Part of profile of District 'B,' illustrating difference between quantities calculated from surface at centre line and height inside slope on hill-side work. (Referred to on Page 600 of the evidence.)
100	....	.. . .	Statement (comparative) of cost of 150 miles west from Quebec Bridge as between estimates of 1906 and final estimates of 1909. (Printed on Page 604 of the evidence.)
101	... .	....	Extract from Toronto Mail re re-construction of line T. & N. O. Railway in vicinity of North Bay. (Printed on Page 608 of the evidence.)

SYNOPSIS OF EXHIBITS—*Concluded.*

No.	Date.	Writer.	Subject.
	1908.		
102	June 19...	J. Armstrong.....	Statutory declaration re over-classification disapproving statement alleged to have been made by him anent over-classification in Quebec District. (Printed on Page 616 of the evidence.)
103	.. ..		Photographs (4) showing gravel or cemented material at La Tuque. (Inserted between Pages 625 and 626 of the evidence.)
104	....		Photograph showing different lifts and the manner of taking out a heavy, deep cutting. (Inserted between Pages 625 and 626 of the evidence.)
	1907.		
105	Feb. 8...	A. E. Hodgins.....	Circular issued to Division Engineers District 'F,' re overbreak and classification of frozen material. (Printed on Page 654 of the evidence.)
106	Nov. 8...	S. R. Poulin.....	Letter to H. D. Lumsden communicating his interpretation of specifications. (Printed on Page 659 of the evidence.)
	1908.		
107	Feb. 4 ..	"	Letter to Division Engineers inclosing copy of H. D. Lumsden's revised interpretation of general specifications. (Printed on Page 666 of the evidence.)
108	.. ..		Photographs (6) Residency 24, District 'F,' showing difference in slopes immediately after removal of material and after completion. (Inserted between Pages 676 and 677 of the evidence.)
109	.. ..		Photographs (2) showing indurated clay and loose rock. (Inserted between Pages 676 and 677 of the evidence.)
110	... .		Photograph showing indurated clay after rain. (Inserted between Pages 676 and 677 of the evidence.)
111	... .		Statement (Comparative) of Engineers' estimate in District 'F,' for solid rock, loose rock, common excavation and train fill, J. D. McArthur Contract. (Printed on Page 679 of the evidence.)
112	... .		Statement (Comparative) of estimated cost (1906) and actual cost of construction, McArthur Contract, District 'F.' (Printed on Page 680 of the evidence.)
113	....		List of items omitted in Hodgins original estimate and included in S. R. Poulin's estimate of January 11, 1908. (Printed on Page 681 of the evidence.)
114	. ...		Statement, comparison of estimated cost of construction of C. P. Railway, with actual amount paid contractors. (Printed on Page 682 of the evidence.)
115	.. ..		Corrected copy of evidence given by S. R. Poulin before Arbitrators, June, 1909. (Printed on Page 696 of the evidence.)
116	... .		Statement (Comparative) of estimate of January 11, 1908, and previous estimate, marked 'Final Location,' District 'F.' (Referred to on Page 709 of the evidence.)
117	. ...		Statement (Comparative) Engineer's estimate of 1908, and cost of construction, McArthurs' Contract, District 'F.' (Printed on Page 737 of the evidence.)
118	....		List of cuttings and borrow pits in Division 5, District 'F,' mentioned in H. D. Lumsden's memo. (Printed on Page 748 of the evidence.)
119	....		List of cuts in District 'F,' mentioned in H. D. Lumsden's memo., exclusive of Division 5. (Printed on Page 751 of the evidence.)
	1907.		
120	Oct. 26...	A. R. Mathews.....	Letter to A. E. Doucet (same as exhibit No. 46). (Printed on Page 771 of the evidence.)

LIST OF WITNESSES

	Evidence on Pages. From.	To.
Cressman, H. B.		749-751
"	Resumed	753-762
Doucet, A. E.		442-443
"	Recalled	555-618
"	"	633-641
"	"	732-734
Grant, Gordon		493-513
"	Resumed	531-554
"	Recalled	764-767
Huestis, H. E.		618-633
Jones, Charles J		763-764
Lumsden, H. D., examined by Mr. Chrysler		71-188
" " Mr. Smith		188-492
" " Mr. Moss		514-522
" re-examined by Mr. Chrysler		522-531
Polkinghorn, J. A.		734-736
Poulin, S. R.		641-719
"	Recalled	736-737
"	"	751-753
Richan, George F.		719-732
" "	Recalled	737-749
Ryan, P. E.		767-769
Woods, H. A.		769-771

MINUTES OF EVIDENCE AND DISCUSSIONS

TUESDAY, February 22, 1910.

The Special Committee appointed to investigate the charges and allegations of Mr. Hugh D. Lumsden against a portion of the engineering staff of Districts B and F, National Transcontinental Railway, met at eleven o'clock a.m., Mr. Geoffrion presiding.

Minutes of the last meeting being read:

Mr. BARKER.—I wish to call attention to the fact that four clauses of my resolution calling for the production of papers were agreed to at the last meeting, but the other portion was allowed to stand over as a notice of motion.

The CHAIRMAN.—I did not quite understand that the four clauses to which you refer were carried. I understood, but perhaps I am mistaken, that the whole resolution was to stand as a notice of motion until our next meeting.

Mr. BARKER.—Technically that was so, but at the same time the secretary was directed to notify the commissioners that the first four clauses called for the production of certain papers. I do not care how the matter is put in the minutes.

The CHAIRMAN.—Was that the understanding?

The CLERK.—It was stated that there was no objection to the papers called for in the first four clauses. The balance of the resolution was to stand for further consideration.

The CHAIRMAN.—I do not think Mr. Barker's motion was put and carried. I understood that the whole motion was to be taken up this morning and discussed. That is the reason why the minutes are so framed. However, I do not think it makes very much difference. We can take up each item this morning and discuss it. Still the minutes may be amended if Mr. Barker wishes.

Mr. BARKER.—I do not wish them to be. I did not move the resolution formally.

The CHAIRMAN.—I did not understand the motion was put and carried.

Mr. BARKER.—I did not say that it was formally put. When I made the motion two or three gentlemen said there was no objection to the first four clauses, but that the remainder should stand over until this meeting. I do not care how the matter is expressed, but that is the understanding.

Mr. MACDONALD.—I think Mr. Barker's statement is right. There did not seem to be much objection to the first four clauses, but the feeling was that practically the whole thing depended upon what Mr. Lumsden would have to say. I do not think you put any motion, Mr. Chairman.

The CHAIRMAN.—Then the next business before the committee is the consideration of Mr. Barker's motion for the production of papers.

Mr. BARKER.—Then I formally move that resolution, sir.

The CHAIRMAN.—I think the committee had better take up the resolution clause by clause and see if we approve of any one of them.

Mr. MACDONALD.—What is the use of discussing a motion for papers when Mr. Lumsden is here, and he is the gentleman who has preferred the charges? We can get any papers we want after we have heard what he has to say.

Mr. BARKER.—Because I put my motion at the last meeting, and it has not yet been dealt with.

The CHAIRMAN.—What is your proposition, Mr. Macdonald? Is it that you wish

the committee to hear what Mr. Lumsden has to say in regard to some of these charges before we decide whether these papers should be produced or not?

Mr. MACDONALD.—Speaking for myself, it seems to me that the question of what papers we want depends entirely upon what Mr. Lumsden has to say. Of course, all papers that are required in order to enable us to understand these charges and deal with them the committee will have them as a matter of course. It does seem to me as putting the cart before the horse to be ordering papers for the information of the committee when Mr. Lumsden is here and is waiting to tell us, I have no doubt, what he meant by these charges which were referred to us. I have no objection to the production of all papers that can be had, but, as I say, it is starting the wrong way.

Mr. BARKER.—Even supposing Mr. Lumsden did not attend at all, we would still have to go on with this inquiry.

Mr. WILSON.—Is Mr. Lumsden here this morning?

Mr. BARKER.—He is here.

Mr. WILSON.—Then let us go on.

Mr. BARKER.—Either we want the papers or we do not want them.

Mr. MACDONALD.—I move that Mr. Barker's motion stand over until we hear Mr. Lumsden.

The CHAIRMAN.—It is moved by Mr. Macdonald that the motion of Mr. Barker stand over until we have heard Mr. Lumsden.

Mr. LENNOX.—Do you mean, Mr. Macdonald, that Mr. Barker's motion is to stand until we have heard Mr. Lumsden, or stand over for the present?

Mr. MACDONALD.—That is all.

Mr. CLARKE.—The idea is to obtain the scope of the reference.

Mr. LENNOX.—Leaving Mr. Barker's resolution in abeyance for the present?

Mr. MACDONALD.—Yes.

The CHAIRMAN.—Mr. Smith, do you represent the Transcontinental Railway Commission?

Mr. R. C. SMITH, K.C. (Montreal).—Yes, I represent the commission.

The CHAIRMAN.—Is Mr. Lumsden here?

Mr. LUMSDEN.—Yes.

Mr. BARKER.—Before Mr. Lumsden is examined I would like to ask if notice was given to the Transcontinental Railway Commissioners for the production of papers?

The CLERK.—Yes. I understood that the first four paragraphs of Mr. Barker's motion were agreed to in order that papers would be produced. I have not received the papers asked for.

Mr. BARKER.—You notified the commissioners, but have received no papers?

The CLERK.—Yes.

Mr. BARKER.—Very well.

Mr. LENNOX.—It was mentioned the other day that the two parties concerned should be represented by counsel. Mr. Smith, I understand, appears for the commissioners?

The CHAIRMAN.—Yes.

Mr. LENNOX.—We have not yet asked whether Mr. Lumsden is represented by counsel.

The CHAIRMAN.—Mr. Lumsden, are you represented by counsel?

Mr. LUMSDEN.—I am not.

Mr. LENNOX.—In that case, I submit to the committee that it would be quite in accordance with what we said the other day that it would be advisable at this inquiry to have both sides represented by counsel.

The CHAIRMAN.—If Mr. Lumsden so desires, he is at liberty to have counsel.

Mr. LUMSDEN.—I have nothing to say as to that. I do not want counsel.

Mr. LENNOX.—I understand Mr. Lumsden to say he has no counsel, I infer from that he probably does not propose to have counsel, and while the interest of Mr. Lums-

den is of importance of course it is of comparatively little importance as compared with the interests of the country. It is right, and I think the members of the committee will agree in that view, that there should be some one charged with the duty of seeing that the evidence material to this investigation is brought out and presented in succint form to the committee. It was intimated to the committee the other day that it would be of great advantage to have counsel, and I think it will be our duty to make arrangements now for counsel to appear and see that all evidence is brought out, whatever attitude Mr. Lumsden may take.

Mr. WILSON.—We cannot force Mr. Lumsden to have counsel.

Mr. LENNOX.—I do not propose to force Mr. Lumsden or any one to have counsel, I am not greatly concerned about Mr. Lumsden in the matter, what I say is this: who represents the public interest in this matter? There should be counsel appointed; what I submit is this that Mr. Smith appears here to represent the commission and the commission represents the government. A statement has been made by Mr. Lumsden which reflects upon the management and construction of this railway.

Mr. MACDONALD.—It does not reflect upon the management and construction of the railway at all, but upon the engineers.

Mr. LENNOX.—It reflects upon the manner in which this railway is constructed, I prefer to use my own language.

Mr. MACDONALD.—You may think so, but that is not what Mr. Lumsden says, he speaks about engineers.

Mr. LENNOX.—He speaks about a certain number of engineers, the commission is responsible for the class of engineers that they employ, to employ competent and honest engineers. The commission may be able to show that they are absolutely blameless in this matter.

Mr. MACDONALD.—The commissioners are not on trial here, and there is no use in your saying so.

Mr. LENNOX.—I have not said so.

Mr. MACDONALD.—You say they are responsible.

Mr. LENNOX.—It will be just as well for us to give each member of the committee the liberty to express his ideas in his own way, Mr. Macdonald usually claims that privilege to himself and I will take the same liberty.

Mr. MACDONALD.—That is so, and I hope I am not interfering with the expression of your views in that way, but when you say the Transcontinental Commission is on trial here I say they are not.

Mr. LENNOX.—I have not said that, but I repeated it that when Mr. Lumsden says a number of the engineering staff have disobeyed his instructions and that a wrong classification exists it is a reflection upon the manner in which this railway is constructed. That commission is responsible for it in the first place and when they are responsible the government is responsible, they being responsible to the government. The government side of it is therefore represented by Mr. Smith, but the public interest is not represented.

Mr. WILSON.—I understood that the public interest is well represented by the committee here; you will be at full liberty to examine and cross-examine Mr. Lumsden as you wish.

Mr. LENNOX.—As far as the committee is concerned I assume that the committee will represent both sides of it, the interests of the public and the interests of the government as far as they possibly can. But in order that both sides may be fairly represented I submit that there should be counsel engaged who will have the duty of bringing forward such evidence as the members of the committee may be prepared to hear in the course of the investigation as we proceed. I submit also that until that is done we are not in a position to go on.

Mr. SMITH, K.C.—Allow me to say one word, of course I do not propose to apologize for my presence here at all, but I did imagine that I represented the public interests. No charge has been preferred against the commission, but the commission

desires as full inquiry as possible in order to fix the responsibility if these charges are well founded, and to fix the responsibility for these unfortunate things that exist; and while I should be delighted that counsel should represent any other interest, or should represent Mr. Lumsden's interest, to which I am not objecting in the least, I must say that I have not conceived it my duty to come here to defend the commission against any charges because I am not aware that any charges have been preferred against them. But if in the course of the investigation I can help the committee in a humble way in getting at the facts my instructions are to make the inquiry, within the scope of the reference, as full as possible in order to fix the responsibility if any exists.

Mr. BARKER.—As I understand Mr. Smith he considers himself appointed by the commission to represent the interests of the public; I for one as a member of the committee think that would be narrowing very much this inquiry.

Mr. WILSON.—I understand that Mr. Lumsden has made some charges, or some reflections against some engineers, and I for one will be delighted if Mr. Lumsden is represented by counsel and that the party or parties against whom he has laid complaints be also represented, but when you talk about counsel to represent 'the public' that seems to me a very vague word.

Mr. BARKER.—Mr. Smith has used that word.

Mr. CROTHERS.—It seems to me that in an investigation of this size, there are two sides. Certain statements have been made by the chief engineer of the Transcontinental railway and this committee is appointed to investigate them. Now, both sides of politics are represented on this committee and we are all probably in the same boat, in that respect it will be as fair as possible, but we all know sufficient of politicians to know that four members of this committee will follow one way and three will follow the other way. We all know that one side of this investigation will attempt to show and desire to show that the charges made by Mr. Lumsden are not well founded—

Mr. MACDONALD.—No, no.

Mr. CROTHERS.—Yes, and the other side I think will desire to show that they are well founded. A lawyer will know well enough, Mr. Macdonald and Mr. Wilson will know, that no lawyer can represent two sides of a question and represent it properly. We all know that the truth can best be brought out if there is an examination, an examiner-in-chief and a cross-examiner. That is the principle of all investigation. I have had something to do with investigations myself and I always encourage the appointment of counsel by any one who wished to have a representative, in order to bring out the truth. We cannot help it, there are two sides upon any point, those on the one side striving in one direction and those on the other side striving in the other direction. No one lawyer can bring it all out, we understand that, and it is necessary in the interests of the public that we should have counsel on each side.

The CHAIRMAN.—I think this is a very peculiar position. There are two sides, as Mr. Crothers says; I understand that one side is Mr. Lumsden making a charge against other parties, and the other side is the other parties who are accused by Mr. Lumsden. We ask Mr. Lumsden if he wants any counsel and he says: 'No, I do not want any counsel.' Now, who is the other party? The other side is the parties who are accused by Mr. Lumsden of having disobeyed his orders. Now, if they are here and want to be represented by counsel, I for one see no reason why their request should not be complied with. In that case we would undoubtedly have both sides represented, on the one hand is Mr. Lumsden making the charge and on the other hand the parties who are accused, if they both want to be represented by counsel I should be delighted for them to have as many counsel as they choose. That is the way I understand it, but of course I am in the hands of the committee about that. I do not know how we can now go on and assign counsel to anybody who is not in the case. I do not think that the government, the commission or anybody else are parties to the case except Mr. Lumsden on the one hand and the engineers accused by him on the other. That is the way I understand the case stands.

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Mr. CROTHERS.—I have had some experience of similar cases; I remember one where a man had made a confession over his own signature and over the signature of his counsel, who now occupies a prominent position as a magistrate. A commission was afterwards appointed to investigate the charges, and they refused counsel on the one side, and the result was the evidence was not brought out and although the man had confessed over his own signature and over the signature of his cousel to certain facts the commission found those facts did not exist at all.

Mr. MACDONALD.—We are discussing a matter which for the moment is entirely beside the question. As a member of the legal profession, I am always in favour of having parties before a tribunal represented by counsel; first because it is a good thing for the profession, secondly when you happen to be a member of that tribunal the fact that you have counsel before you relieves you of a good deal of work, both of which are very important considerations if there were no other. In this particular case our friend, Mr. Lumsden, comes here and he makes statements to the commission with reference to certain engineers, and the House of Commons has referred to this committee the task of inquiring into these statements. Now Mr. Lumsden is present and I think we ought to hear what he has to say. Let him state whether anybody in particular has done anything wrong and that he wants to investigate these charges. Then I should think we would say: 'That is all right. Mr. Lumsden you have told us what you want to say and what you want to do, and you ought to have counsel appointed, and the people you accuse ought to have counsel.' That would be my idea.

Mr. CROTHERS.—I think the parties are not Mr. Lumsden and his engineers. The two sides are the people and these engineers. The engineers are represented by counsel. Who is representing the people? Mr. Lumsden?

Mr. MACDONALD.—I am saying that Mr. Lumsden ought to have counsel.

Mr. CROTHERS.—He says he does not want counsel.

Mr. MACDONALD.—Then let us hear what he has to say.

Mr. CROTHERS.—But he says he does not want to have counsel.

Mr. MACDONALD.—We want to hear what he has to say about these charges.

Mr. CROTHERS.—It appears to me that if there is to be counsel, now is the time to appoint him. Counsel ought to hear what every witness says, he does not want to come in at the close of the proceedings. If there is to be counsel he should be here at the very beginning of the evidence and not after the most important testimony has been taken.

Mr. LENNOX.—With reference to your statement a few minutes ago, Mr. Chairman, Mr. Lumsden is the party on one side,—

The CHAIRMAN.—Then we should not refuse him counsel.

Mr. LENNOX.—He has said himself that he does not want counsel. Now Mr. Lumsden is not a party in any shape or sense to these proceedings. Mr. Lumsden was an engineer and he saw fit to resign an office carrying with it a salary of $6,000. He threw up his position for reasons which appear to me to be good; they may be good or they may not be. Now the Commission are responsible for the engineers that it employs and the government is responsible for the acts of the Commission itself and you cannot get away from the fact; it is a charge against the government.

Mr. MACDONALD.—Not at all. What is the good of talking like that? We can argue that out when we go to the House.

Mr. LENNOX.—Just a moment if my honourable friend will allow me at this stage. I say the Commission is responsible for the acts of the engineers which it employs. If it employs incompetent or dishonest engineers it is responsible. If it turns out there is nothing in these charges at all, and the Commission is absolutely blameless, it is to its interest to establish the fact. It is to the Commission's interest, if there has been any wrong-doing at all, to fight every statement that Mr. Lumsden makes and for that purpose the Commission has its counsel here. I say that the Commission represents the government; the government is on trial in this matter and the public is on the other side.

Mr. MACDONALD.—Mr. Lennox, I am prepared to vote with you for everybody to have counsel so you need not argue that point. Mr. Lumsden is here. Let him state what he wants counsel to try. The moment he tells us, I would say, let us have it.

Mr. LENNOX.—Mr. Macdonald is not so dense as he pretends.

Mr. MACDONALD.—I am pretty dense on your proposition, I cannot see it at all.

Mr. LENNOX.—If I can make my object clear to the chairman and if not to him to the public, I shall have done my duty. What I claim is this: the public have an interest in ascertaining whether these charges are true or not, and we say that it is altogether irrelevant whether Mr. Lumsden takes one position or the other. The public ought to be represented in this investigation and it is our duty—not because any one claims to have counsel—but it is our duty as a committee before any proceedings are taken to see that counsel be appointed who will take upon himself the duty of seeing that all the evidence bearing upon this matter is properly brought out. In that way we shall insure that justice shall be done. That is the position I take in this matter.

Mr. BARKER.—I would like to add a few words to my friend's statement. As I understand it, Mr. Lumsden in tendering his resignation to the Commissioners made certain allegations which the government considered grave and which demanded investigation. If Mr. Lumsden to-day signed a paper retracting every word he said that would not relieve us from going on with this investigation. Now what position are we in? If there is a charge such as referred to in the order of reference it is against the commissioners, nobody can doubt that and yet they appoint the only counsel here, that is to say the gentlemen against whom the charges have been levelled.

Mr. MACDONALD.—Again I say that you are arguing about the something that nobody is objecting to, everybody is perfectly willing to have counsel.

Mr. BARKER.—It will not hurt you to hear what I have to say. The gentlemen who are under these charges, without consulting this committee, without asking our approval, appoint a gentleman as they claim to represent the public. That is what the legal representative of the Commissioners said he was employed here for. If you want a one-sided investigation say so and we will know where we are.

Mr. WILSON.—You wanted the public to be represented a few minutes ago.

Mr. BARKER.—I agree entirely in what Mr. Lennox and Mr. Crothers have said and I do not want to indulge in unnecessary repetition; they put the case exactly as I regard it. The public demand and want an investigation. Very well, let us have an investigation, but do not have it so that those against whom the charges are laid will run the whole business.

Mr. WILSON.—I think we must confine ourselves to the scope of what is before us and not go outside the order of reference. That reference states that we are to investigate the allegations and charges of Hugh D. Lumsden against a portion of the engineering staff of the Transcontinental Railway. Is it pretended that the Commissioners or the government are responsible? I do not see the slightest reference to any charge against the government or the Commissioners themselves; their names are not mentioned as being charged with anything wrong. If there were any charges against the government, or against any members of the government, or against the Commissioners, they should have been made in the House. What we are here to investigate are the charges of Mr. Lumsden against a portion of the staff and that is all. That is my view of it.

The CHAIRMAN.—I entirely agree with Mr. Wilson. That is the stand I have taken before and therefore I should be in favour of asking Mr. Lumsden a few questions. If he wishes to be represented by counsel we will be very glad to grant his desire. But I think that we should have Mr. Lumsden sworn and hear what he has got to say about these charges. Then we shall be in a position to form an opinion as to the desirability of engaging other counsel.

Mr. LENNOX.—I propose to submit a motion upon this question. I move that we

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do not proceed further with this matter until arrangements have been made to conduct the investigation and prove the charges, if capable of proof.

Mr. MACDONALD.—I move in amendment, seconded by Mr. Clarke, that Mr. Lumsden be heard first and that on hearing his statement the committee reserves to itself the right to decide whether he or any other parties be represented by counsel.

Mr. WILSON.—Having heard Mr. Lumsden's declaration that he does not want counsel, will you add that Mr. Macdonald?

Mr. MACDONALD.—Well, that is understood, I suppose. I will move, Mr. Chairman that the committee proceed to hear what statement Mr. Lumsden has to make and on hearing him, in view of his having stated that he does not desire counsel, will determine what parties if any should be represented by counsel in order to best ascertain the full facts.

Question put by the chairman.

Mr. LENNOX.—Just a moment, Mr. Chairman, it is difficult to know just where we are at. Before there was any time for anybody to do anything Mr. Macdonald moved what he called an amendment. I think it was moved before my motion was seconded, so it is a little difficult to know where we are at.

Mr. MACDONALD.—Is there anybody going to second your motion?

Mr. LENNOX.—I think so.

The CHAIRMAN.—If there is no motion there cannot be an amendment to it and therefore you cannot vote on the amendment.

Mr. LENNOX.—I will put my motion in writing.

Mr. MACDONALD.—Mr. Lumsden who originates this whole matter comes here apparently ready to tell us everything, he is here, and he says, 'I do not want counsel, I am ready to speak.'

Mr. CROTHERS.—He is not on trial.

Mr. MACDONALD.—I do not see why it should be assumed that the Commission should be taking the part of the engineers against whom the charges have been made any more than they should be taking Mr. Lumsden's part; they stand in an independent position, the parties on either side are all employees of the Commission whose duty it is to fasten the blame, if there is any blame, on the responsible party. Mr. Lumsden's charges are against certain engineers of the staff, and until we know what his charges are we cannot tell what it is we have to investigate or who the parties on the other side are.

Mr. BARKER.—Mr. Lumsden is here in response to a summons from this committee to give evidence.

Mr. WILSON.—He is summoned here as the originator of those charges.

Mr. LENNOX.—I have reduced my motion to writing in this form:

> Moved by Mr. Lennox, seconded by Mr. Crothers that we do not proceed with this investigation until counsel has been engaged on behalf of the public in order that the facts may be fully elicited, it having been announced that Mr. Smith appears as counsel for the Commission, and Mr. Lumsden appearing without counsel.

The CHAIRMAN.—You have heard the motion.

Mr. MACDONALD.—I beg to move in amendment, seconded by Mr. Clarke.

> Resolved that the committee proceed to hear what statement Mr. Lumsden has to make, and on hearing him, in view of his having stated that he does not desire counsel, will determine what parties if any should be represented by counsel, in order to best ascertain the full facts.

The CHAIRMAN.—Is it the pleasure of the committee to adopt the amendment? Carried.

Mr. LENNOX.—Yeas and nays.

(Committee divided).—Yeas 3, nays 3.

The CHAIRMAN.—I vote Yea, and declare the amendment carried and the motion lost.

Mr. BARKER.—I now move that we adjourn.

The CHAIRMAN.—You have heard the motion, gentlemen?

Mr. BARKER.—I make that motion because there is no one here to conduct the examination of Mr. Lumsden as counsel on behalf of the public interests.

The CHAIRMAN.—But Mr. Lumsden I suppose has the right to say what he wants, he has the right to be heard here.

Mr. BARKER.—I do not know what Mr. Lumsden wants.

Mr. MACDONALD.—Allow me. Mr. Lumsden is here, and the Chairman asked him if he wanted counsel. He replied, 'No.' Now he is ready to go on and make a statement and I think it is only fair to the committee to hear what he has to say; he may be anxious to do so, and although in fact he does refuse to have counsel he may have a statement that he desires to make and it may be very short, I do not know anything about that, but why adjourn the committee and not hear what he has to say when Mr. Lumsden is right here and ready to speak?

Mr. LENNOX.—I will second Mr. Barker's motion, and in doing so I want to submit to you some reasons why I think we ought to adjourn. We are at the threshold of this inquiry and I want if possible to proceed with a reasonable degree of harmony, of course. First of all you realize this is a very important stage in the proceedings, it is the initial stage which is always a very important stage of the proceedings, and we may be right in the position which we take as the minority of the committee, or we may be wrong; we are taking at the outset the position that we have in perfect good faith, we do not want to take any extreme position, we want to remain on this committee and assist in disposing of the work of this committee.

The statements made in the House indicated that there would be a very narrow range of inquiry. Well, we have consented to become members of this committee and do the best we can. What position we can take in case counsel cannot be procured, I do not know. You have already intimated that anybody can secure counsel. What I have submitted this morning is that the country should employ counsel. What I suggest to you is this: We will adjourn for to-day in order that all of us shall have an opportunity of considering carefully this situation and what attitude we can assume. I second the motion of Mr. Barker in that view. He did not state any reason as to why he wished the committee to pursue that course. As far as I can infer, I presume it is in order that we might see whether it is possible that counsel can still be obtained or what position the minority of the committee will take under the circumstances. Therefore, I second the motion, and I trust the committee will not have to divide, but that the majority will agree with the minority in this matter.

Mr. MACDONALD.—I really cannot understand my honourable friend's motion. I want to have it distinctly understood, as the mover of that amendment, that instead of being opposed to it, I agree to Mr. Lumsden, or the engineers, or anybody else whose name may be mentioned here in any way, being represented by counsel. I am free to say I am disposed to favour that at all times. The motion of my honourable friends, Messrs. Barker and Lennox, must not be construed by anybody that, in so far as I am concerned, having moved the amendment, there is the slightest disposition on my part—and I do not think there is any on the part of my friends who vote with me in this matter—to refrain from allowing counsel for Mr. Lumsden or any one else that ought to be so represented in the public interests. But here we have had a reference from the House by resolution of certain charges, and we invite Mr. Lumsden to be present for the purpose of hearing what he has to say in regard to them. Mr. Lumsden has been here through all these proceedings this morning. My friend, the chairman, endeavoured at the very inception of this meeting to allow Mr. Lumsden to tell us what he desires to tell us, and he never had a chance to do it up to this minute. I would say that the question of looking into and investigating anything Mr. Lumsden has to say, or his being represented, or the public interest being represented

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by counsel is an eminently proper matter for consideration. But I say it would be a most absurd thing, and everybody will regard it in that way, to have Mr. Lumsden sitting here without being allowed to make one single statement. The gentleman does not want to be represented by counsel, and all I say is before we adjourn this meeting let us hear what he has to say. This committee would be making a farce of the investigation if it did not ask Mr. Lumsden to tell us everything he desires to state, or what position he will take in this inquiry. I think that everybody will agree that is what we ought to do before we adjourn. When we know what position Mr. Lumsden is taking, when we know what he wants to say or to do, then we can act intelligibly; and, if counsel is necessary, let us have counsel, and do everything that the public interest requires. We cannot gag Mr. Lumsden, and ought not to gag him; let us hear what he is going to say.

Mr. CROTHERS.—We are not in the position that we should begin the investigation, begin perhaps to examine the most important witness of the whole inquiry with counsel on one side and none on the other.

Mr. MACDONALD.—That is not the position, Mr. Crothers.

Mr. CROTHERS.—Pardon me; I did not interrupt my learned friend. Mr. Macdonald says we have a most important witness, probably the most important witness——

Mr. MACDONALD.—I did not put it in that way.

Mr. CROTHERS.—No; but you will admit it, I suppose. The proposition is to hear this most important witness, and afterwards we are to settle whether we ought to have counsel or not. The time to determine whether we are to have counsel, if at all, is now; and as it would appear that there is only one counsel, it seems to me as only reasonable that the minority of the committee—that the whole of us, in fact—should have an opportunity of considering the stand we would take in view of this new condition which has arisen this morning. It seems to me that that is not unreasonable. There is only the one witness awaiting a hearing, as I understand it, and he lives in the city, so that no great inconvenience will arise by the postponement of the hearing for a few hours.

Mr. CLARKE.—I think it would be most unfair to enter upon an elaborate examination of Mr. Lumsden until notice is given to engineers who are charged by him. I think the parties in question ought to be known, ought to be notified, and be represented here and accorded the opportunity of hearing the examination of Mr. Lumsden in detail. I think that should be done in the case of all the engineers interested, because they are the persons charged. It is according to the first rule of British justice that the accused should have a right to be heard and to hear what is being said against him. But I think the duty of the committee is to find out first who are the persons charged and what the charges are. Then let them be notified and appear here before the committee. I think we ought to do that at once.

Mr. WILSON.—You want Mr. Lumsden to announce his charges, so that we may know what they are?

The CHAIRMAN.—Mr. Lennox, do you insist upon your motion?

Mr. LENNOX.—Yes; but it is not my motion, it is Mr. Barker's.

The CHAIRMAN.—Will you please put it in writing?

Mr. LENNOX.—You will remember, Mr. Chairman, that the other day the opinion was expressed that the commission and Mr. Lumsden will no doubt be represented by counsel, and that was desirable. It was also stated that we had better not meet until Wednesday, because the Commission would be engaged in Quebec or somewhere else, and I suggested, in order to facilitate matters, that we should have this preliminary meeting to-day. It was intended partly, not altogether, as an organization meeting, and to probably ascertain the situation to some extent. Now, we do not want a long adjournment, we only want an adjournment until to-morrow.

Mr. MACDONALD.—For what purpose, Mr. Lennox?

Mr. LENNOX. It is not right in a large matter such as this, where enormous interests are involved, to have counsel on one side and not on the other.

Mr. MACDONALD.—We will not let Mr. Smith be heard.

Mr. LENNOX.—I do not think Mr. Smith will say anything, I am not afraid of that at all. What I am saying is that before we begin this investigation the public ought to be represented by counsel. If Mr. Lumsden had brought counsel here—— and it was anticipated that he would—then we might say that the public's side of the question was represented, but Mr. Lumsden says that he is not represented by counsel and does not want to be. Now, sir, it is our duty not to represent any one body or section but to represent the public in this matter and in doing that we should see that this matter is started properly, and I submit to you, Mr. Chairman, we ought not to be compelled to go on with this matter to-day. That is the first branch. Now on the other hand the second branch is that this minority has a right by reason of the fact that we are taken by surprise by Mr. Lumsden not having counsel, that the minority has the right to have time to consider the situation.

Mr. MACDONALD.—We thought so too, we thought that, but he wants to go on and tell us something without having counsel, and then we will see whether it is worth while, whether an adjournment ought not to be allowed.

Mr. LENNOX.—As a matter of courtesy we ought to be allowed to adjourn the meeting until to-morrow to consider the position we will take in this matter; I will put it to the Chairman in that way if he does not entertain it on other grounds.

Mr. MACDONALD.—That is the strongest ground you have offered yet, that is your best argument, so far.

Mr. LENNOX.—I do not care so long as I protect the public interest. Having, as you suggest made the best argument, I wish to repeat and emphasize that argument that we want time in order to consider what position we will take. We would like to have that as a special grace.

The CHAIRMAN.—If you put it that way of course, that is different.

Mr. LENNOX.—I will put it that way and ask you to adjourn the meeting for to-day.

The CHAIRMAN.—When would you adjourn to, to-morrow, Wednesday or Friday?

Mr. LENNOX.—I do not think it will make any difference.

The CHAIRMAN.—Well, let it go on to-morrow.

Mr. MACDONALD.—Why not let Mr. Lumsden make the statement he wants, do not ask any questions and let it stand over, so that if there is anything to be done it can be done.

Mr. LENNOX.—I think there will be opportunity for him to do that to-morrow and we will then have considered our situation. An adjournment until to-morrow is what we ask for.

The CHAIRMAN.—Of course it is against my judgment that we should send back Mr. Lumsden, whom we summoned here, and who is really, I know, ready to make a statement, but of course——

Mr. BARKER.—We do not know even that much.

The CHAIRMAN.—Of course, if Mr. Lumsden is embarrassed by some question, he has the right to ask us to wait and need not answer, we will not press him because he has no counsel, but if he has some statement, something to say, it is not logical for us to refuse to hear him.

Mr. LENNOX.—I think we have come exactly to the situation as the Chairman has suggested, that we should have what we want, an adjournment until to-morrow.

The CHAIRMAN.—Then we will have to insist on Mr. Lumsden making some statement.

Mr. LENNOX.—Do I understand that after you have said you will accede to that request for an adjournment——

The CHAIRMAN.—I beg pardon, I did not say that, I said it was the best argument you had made, but I did not agree to that at all.

Mr. LENNOX.—I thought you did.

The CHAIRMAN.—And some members of the committee are insisting that we proceed.

Mr. CLARKE.—The way I feel about it is that we are meeting at a good deal of expense and I do not think that we are justified in the public interest in adjourning at this stage. We have Mr. Lumsden here and we are all anxious to know what the charges are. I do not think my friends do themselves justice when they think that the public interest is not being looked after when three good lawyers like they are range themselves on one side.

Mr. BARKER.—Are you all ranging yourselves as lawyers on the other side?

Mr. CLARKE.—No, but you are the ones that were complaining about the public interests being neglected.

Mr. MACDONALD.—I do not think we ought to go into any examination, but my opinion is that Mr. Lumsden is here and he ought to have an opportunity to make his statement to the committee. I do not know anything about what he is going to say. We notified him to be here, he is here, and we ought to ask him if he has anything to say, and if he has let us hear it, and if there is anything to be done in the way of examination or elucidation, let us adjourn after that; do not let us go into any hearing beyond that. Here is Mr. Lumsden here, why shouldn't we go on with him to-day?

Mr. BARKER.—Why shouldn't we go on to-day and get a statement of this case? Why that will involve some hours.

Mr. MACDONALD.—He may have some statement in writing.

Mr. CLARKE.—I think we ought to find out what portion of the engineering staff it is in whom he has lost confidence.

The CHAIRMAN.—Is it the desire of the committee that Mr. Lumsden should be heard now?

Mr. MACDONALD.—Let him be asked if he has any statement to make to the committee.

Mr. LENNOX.—Then the motion to adjourn is lost.

The CHAIRMAN.—The motion to adjourn is lost.

Mr. LENNOX.—Then, as Mr. Macdonald suggests, let him be asked if he has a statement, and let us confine it to that.

The CHAIRMAN.—Yes, that is all.

Mr. CLARKE.—I think we ought to get the ground work for the investigation and see who is involved.

Mr. HUGH D. LUMSDEN, sworn.

By the Chairman:

Q. Now, Mr. Lumsden, have you any statement at all stating your position in regard to this matter which is before us now that you desire to make?—A. I have made a memorandum, a statement which I have here, if I am at liberty to read it.

Q. Yes, you can read it.—A. (Reads.)

Exhibit No. 1.

I resigned my position as Chief Engineer of the Transcontinental Railway for the reasons expressed in my two letters to the Commissioners of 25th and 26th June, 1909. I stated in my letter of the 25th June last that my recent trips over portions of Districts 'B' and 'F,' in connection with the arbitration, had led me to the conclusion that neither the general specifications, nor my instructions regarding classification, had been adhered to, but on the contrary large amounts of material had been returned as solid rock, which should only have been classified as loose rock or common excavation, and that material had been returned as loose rock which was or could have been handled by ploughing and scraping, and should have been returned as common excavation. I added that, on several residencies, there seemed to have been no attempt by the engineers to carry out my instructions and measure rock returned, either by showing the same on cross sections, or by measurements of individual pieces, but that they appeared to have

simply guessed at the amount by taking percentages of the total cutting. Further, in some cases where cross sections were prepared showing ledge rock, same proved to be erroneous, resulting in a very much larger amount of the solid rock being returned than actually existed. Also, what is known as overbreak had been returned in many places where it was caused by excessive use of explosives, and where the material was wasted this ought not to have been done. Under these circumstances, I declined to certify any further progress estimates in districts 'B' and 'F,' and resigned my position as chief engineer, stating that, in view of the general disregard of my instructions, I had lost confidence in that portion of the engineering staff who were responsible for the measurement, classification, supervision, and inspection of considerable portions in district 'B' and east of Rennie Crossing in district 'F,' lately gone over by me.

I based the statements contained in my resignation both on the facts admitted by the engineers on the ground, in May and June, 1909, in their sworn statements made in my presence, and also upon my personal examination on the ground. On my going over the work, in both Districts 'B' and 'F,' I found many cuttings and borrow pits where the classification made by the engineers was such that, from my professional experience of nearly thirty years, I could not agree with it. This was especially so in cuttings where ledge rock and other materials were shown on cross section sheets, but where, on the stations being pointed out by the engineers on the ground, no such ledge rock was found to correspond with such cross sections; or where, in order that a reasonably accurate measurement of such rock should be made, it was evident that more numerous cross sections should have been taken. In various places where assembled rock was shown on the cross sections, an examination of the material in the adjoining slopes showed no assembled rock such as indicated in my interpretation of clause 34 of the General Specifications, dated January, 1908. From my notes, taken on the ground at the time, I have compiled some examples or illustrations of the objectionable classification.

In regard to my loss of confidence in a certain portion of the engineering staff, I may say that this was due to their failure to carry out, in accordance with my views, the terms of the General Specifications, and of my instructions and interpretations of clauses 34, 35 and 36 of the specifications. The engineers on the ground, who saw the work frequently while in progress, ought necessarily to be best qualified to make the classification, provided that they have the necessary experience and are honest; and, though I may doubt whether some of them had the necessary experience (as exemplified by the manner in which some cross sections were taken), I do not challenge the honesty of their intentions. However, being quite unable to agree with their classification in very many places, I preferred to resign my position and salary, rather than continue to certify to estimates which were not in my opinion correct or justified. As I was appointed chief engineer by the government (unlike the engineering staff who are appointed by the Commission), I considered it my duty to the Minister of Railways, when resigning my untenable position, to mention the reasons for my doing so.

Q. Is there any other statement, Mr. Lumsden, you wish to make just now?—A. Nothing at present.

By the Chairman:

Q. Have you any objection this morning to give us the names of those engineers in whom you say you had lost confidence —A. Well, it was more general than——

Q. You stated in your letter to the commissioners that there was a certain portion of the engineering staff in whom you had lost confidence. Could you give us the names of some of them, if you do not recall them all—some of the parties in whom you had lost confidence?—A. Well, those responsible particularly for the measurements.

Q. Cannot you give us the names?—A. I would have to—the trouble is I do not know the names of all the resident engineers, I do out remember them. I could easily look them up. I can tell the sections they were on, but cannot possibly tell the names of the engineers.

Q. You might perhaps give us the sections and perhaps we can recall the names? —A. I will have to look that up. I can tell approximately, I can tell the district they are in and the portions of the work.

Q. Well, tell us to the best of your ability so that we can have some information? —A. There was north of La Tuque and portions of the work between stations—I have got a memorandum prepared which I will put in.

Q. Have you got that memorandum with you?—A. I have got the memorandum here. I am not perfect cognizant in some cases who the engineers were.

Q. I think you had better read the memorandum to the committee so that we can have the benefit of it. Give us the districts and the names, if you have them?— A. I have not got any names down in the memorandum, I have simply got the statements. These are certain points picked out. They are only one here and there——

Q. Give us what you have?—A. Showing material returned as solid rock which should have been loose rock or common excavation. (Reading from Exhibit No. 2, page 79):

District B: Station 3050, plus 30 to 3056, plus 75; station 3210, plus 60 to 3214, plus 32, station 3516, plus 26 to station 3521, plus 81; station 6710 to 6890, a number of cuts; station 6824 to 6830, station 6915 to 6917, station 6947 to 6959, station 6963 to station 6969, station 7033 to station 7036, station 7052 to station 7062, station 6789 to 6793, station 6761 to 6770.

Q. What are those, are those districts?—A. Those are simply stations, 100 feet stations.

Q. Have you got a long list of them?—A. Yes.

The CHAIRMAN.—Are we going to be here all day?

Mr. LENNOX.—Well you insisted upon having the information.

The CHAIRMAN.—I can sit here just as well as anybody if we would save time.

Mr. LENNOX.—You had better hear the statement now.

The CHAIRMAN.—You had better proceed.

The WITNESS—(Reads):

Station 6841 to 6848; station 6782 to 6788.

By Mr. Clarke:

Q. Give us the extent of district 'B,' where it begins and ends?—A. The district commences with the boundary between New Brunswick and Quebec and ends about 100 miles west of Wymontachene.

Q. Where is that?—A. Up on the St. Maurice, where the line practically leaves the St. Maurice river.

Q. What is the whole length of district 'B'?—A. About 500 miles I should think, I really forget the exact distance.

By Mr. Wilson:

Q. Five hundred miles from where?—A. From the boundary between New Brunswick and the eastern portion of Quebec up to about 100 miles west of Wymontachene. Then I have got the details of these same stations.

By Mr. Lennox:

Q. Let us have everything down on the record.—A. (Reads):

Station 3050, plus 30 to 3056, plus 75. The returns I got from the engineers on the ground were 2500 ledge, loose rock 197, common excavation 196. My

note, and these are the only notes, I made no measures personally, is 'remeasure no such rock.' A lot of C. E., meaning common excavation. That all refers to station 3050, plus 30 to 3056, plus 75.

By the Chairman:

Q. Can you tell us who was the engineer?—A. I am sorry to say I cannot tell you because I do not remember and I have not got the names here.

Q. Could you give us the engineers of sections?—A. When I was there on this occasion with the arbitrators many of the engineers who had been on the work and made the measurements were not there.

By Mr. Wilson:

Q. Have you got the dates when these details you are giving us now were gathered?—A. I know when I made them it was in May or June last.

By Mr. Lennox:

Q. Now proceed.—A. (Reads):

Station 3210, plus 60 to 3214, plus 32. The return of the engineer was 'rock 2198, ledge.' I have a note opposite that: 'quite an amount of other material than rock in this, say ¼ loose rock.'

Station 3516, plus 26 to station 3521, plus 81, station 3516-26 to 3521-81 returned rock, 1,562; loose rock, 2,562; and common excavation, 10,829, and the note I have opposite it is, 'No sign of stone.' Then I have a note of stations between 6710 to 6890, and the note is 'A number of cuttings in nearly all of which the return of rock seems excessive.'

Station 6824 to 6830, rock 12,014 yards, loose rock, 9,550 yards, common excavation, 5,687 yards. My note opposite that is, 'No rock in sight, say one-eighth loose rock, remainder common excavation.'

By the Chairman:

Q. What do you mean when you say 'no rock in sight,' do you mean there could be rock and you could not see it?—A. Yes, I did not see it.

By Mr. Macdonald:

Q. Do I understand you to say in regard to these items you are reading that the different engineers who classified these things did so contrary to your instructions?—A. I mean that the classification is not in accordance with my instructions as I understand it.

Q. I notice for instance——

Mr. LENNOX.—I understood there was to be no cross-examination.

Mr. MACDONALD.—Not by counsel, but surely the members of this committee are not to sit here as dummies.

Mr. LENNOX.—I do not know whether the members of this committee are dummies or not, but I understood distinctly that there would be no cross-examination at all.

Mr. MACDONALD.—My hon. friend has been doing a lot of talking here this morning and now he objects to other members asking a question.

Mr. LENNOX.—I have not asked a single question, but I understood there was to be no cross-examination.

Mr. MACDONALD.—For my part there was no such understanding and it may as well be understood that I propose to ask a question if I deem it necessary. I want to find out just where you stand, Mr. Lumsden, in reference to this statement you make in your memorandum you say that this classification, as you understand it, was not made in accordance with your instructions?—A. And the specification.

Q. Do you say it was made in bad faith?—A. No, I do not say it was made in bad faith.

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Q. You say it is just simply a difference between engineers as to whether that is right?—A. Yes.

Q. That is right?

By Mr. Lennox:

Q. Now, let us get on.—A. (Reads):

Station 6915 to 6917, rock 2,142, loose rock 1,395, common excavation 1,372, my note is, 'No rock, only say, 100 yards of loose rock, the rest common excavation.' Shall I keep on at this and go over them all.

Mr. Lennox.—Just please keep on.

A. What I mean is they are all similar.

Mr. Lennox.—Keep on.

A. (Reads):

Station 6947 to 6959, rock 42,460 yards, loose rock 26,558 yards, common excavation 37,154 yards. My note in regard to that is, 'This seems all common excavation, no rock, but a percentage of loose rock, say 25 per cent for boulders, some of it good ballast.'

Station 6963 to 6969, rock 7,375 yards, loose rock 4,560 yards, common excavation 9,115 yards. My note is, 'Nothing but common excavation in sight.'

Station 7033 to 7036, rock 5,790 yards, loose rock 3,850 yards common excavation 5,360 yards. My note is, 'No rock, say 1,000 yards loose rock, rest common excavation.'

Station 6789 to 6793, rock 4,352 yards, loose rock 1,850 yards, common excavation 1,233 yards. The note is, 'Except 150 feet east end all common excavation, say 600 yards loose rock in east end.'

Station 7052 to 7062, rock 3,446 yards, loose rock 4,329 yards, common excavation 14,143 yards. The note is, 'Looks like say 10 yards rock, 300 yards loose rock, the rest common excavation.'

Station 6761 to 6770, rock 20,267 yards, loose rock, 18,409 yards, common excavation 17,453 yards. My note is, 'May have been a few yards rock, one-fifth loose rock, remainder common excavation.'

Station 6841 to 6848, rock 3,000 yards, loose rock 2,100 yards, common excavation 1,445 yards. My note is, 'No rock in sight, one-eighth loose rock, the remainder common excavation.'

Station 6782 to 6788, rock 996 yards, loose rock, 1,047 yards, common excavation 8,860 yards. My note is, 'Fifty feet east end loose rock, all the rest common excavation, no rock.'

That is the portion I have given you in District 'B,' now I have some in District 'F.'

My Mr. Macdonald:

Q. Did you ask the engineers in charge of those sections as you went along why this difference had occurred according to your view, did you ask for any explanation as to the difference?—A. Not in all cases, no.

Q. Did you in some cases?—A. In one or two I think I may have.

Q. Can you tell us the names of the gentlemen whom you spoke to about it on the work?—A. Mr. Phillips, I think, is one and Mr. Miller—I do not like to mention the names without I look that up because I am not sure.

Q. You could give us the names of the gentlemen, I suppose, could you, if you looked them up?—A. In some cases I could and in some cases I could not.

By Mr. Clarke:

Q. Before going into District 'F' will you give us where it begins and where it ends and the length of the district?—A. District 'F' extends from Winnipeg to near Lake Nipigon, but the part of District 'F' referred to extends from what is known

as Lake Superior Junction to near Rennie's Crossing, where the Transcontinental crosses the Canadian Pacific Railway.

Q. Is Rennie east or west of the Junction?—A. Rennie is west; it is about, I should say, 70 miles from Winnipeg.

Q. And it is the portion between Rennie and Lake Superior Junction?—A. Yes.

By Mr. Lennox:

Q. Now give us that?—A. (Reads):

Station 553-80 to 556 returned solid rock, 4,730; loose rock, 9,672 yards; stations 2315 to 2323 and station 1145, Borrow Rocky Lake. Now, these are the details of that:

Stations 553-80 to 556 returned solid rock, 4,730; loose rock, 9,672 yards; common excavation, 2,807 yards. My note is, 'Station 558 50, dug down 6 feet south from centre of track 3·8 feet, good ballast; from appearances this whole cut is common excavation, but may be a few yards of rock in boulders.'

Stations 891-50 to 898-50, returned rock, 1,159 in boulders; loose rock, 6,649 yards, common excavation, 35,132 yards. My note is, 'Cut all sand and gravel, very few stones.'

Station 1383 to 1397: rock, 427 boulders; loose rock, 24,033; common excavation, 34,275. My note is, 'No boulders in sight. All sand and little clay. Ballast pit.'

Station 2315 to 2323: rock, 2,750; loose rock, 1,950.' I noticed something wrong here. Rock should not be more than one-third of all in cut, and half remainder common excavation.

'Borrow pit station 1145, rocky lake: rock, 2,016; loose rock, 4,936.' My note is, 'Top ploughed and scraped. No sign of rock in pit.'

That is one portion of it. The material returned as loose rock I imagine should have been returned as common excavation.

By the Chairman:

Q. What do you mean when you say 'I imagine'?—A. That is what my notes are.

By Mr. Macdonald:

Q. When had the engineers on the ground made this classification, how long before you were there?—A. Some times it was long before.

Q. A year?—A. I dare say some of it may have been more than a year.

By Mr. Wilson:

Q. Did you ever communicate those notes to the commissioners, the outline you have given now?—A. I do not think the notes were given.

Q. You do not think you ever did?—A. No.

Q. Have you any charge to lay against the commissioners?

Mr. LENNOX.—I do not think this examination should proceed, if faith is to be kept at all.

Mr. MACDONALD.—Faith kept with whom?

Mr. LENNOX.—If my friend, Mr. Macdonald, is to keep the statement he made earlier in the proceedings, this cross-examination, and particularly this interjection, should not be continued.

Mr. MACDONALD.—There is some misunderstanding about that. If my friend, Mr. Lennox, makes a statement that any member of this committee said he should not ask the witness anything we wanted to, he makes a statement in regard to which he is entirely mistaken, and certainly states something I never said. Why should we not examine the witness at this stage?

Mr. BARKER.—But you did not choose to say that.

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Mr. MACDONALD.—No such statement was made, and there was no such intention, that we should not have any examination.

Mr. LENNOX.—I am referring to what my honourable friend said, or what I understood him to say.

Mr. MACDONALD.—I will ask this witness any question I like. The majority of the committee decided that Mr. Lumsden should make his statement, and it was not necessary to make any compromise with you as to what would be done.

Mr. LENNOX.—The arrangement was that the witness should make his statement and nobody should ask any question to-day. Even if that had not been stated, I submit, Mr. Chairman, it is not a proper way to do to interject questions all the time. I think it more proper to allow Mr. Lumsden to make his statement as he proposes, and not try to break up its effect by interjecting questions.

Mr. MACDONALD.—You know well enough it would be very hard to prevent any member of this committee from asking questions.

Mr. LENNOX.—It is more important that the understanding arrived at should prevent my friend from asking questions.

Mr. MACDONALD.—What is the use of talking nonsense? My honourable friend began very early in this committee talking bunkum. He has been bluffing all this morning. He opposed Mr. Lumsden in making any statement, and now that he has got him to give some details, my honourable friend says no member of the committee shall ask any questions.

Mr. LENNOX.—I do not intend to reproach my honourable friend, but I submit that it is not a proper way of doing business.

Mr. MACDONALD.—Well, I wish to ask questions, and I think any person else should who wants to.

Mr. LENNOX.—May we proceed now with Mr. Lumsden's statement?

Mr. WILSON.—My question remains to be answered. I asked the witness: Have you any charge or any complaint to lay against the commissioners?

A. I want to say that I have no complaint in regard to this matter.

Q. Not regarding these notes?—A. Not regarding these notes, but I may have some complaint to make——

Q. All right.—A.—outside of that. I might say that a great many of these notes —at least some of the notes I am giving you—refer to places which are being arbitrated on. Some of them are not.

The CHAIRMAN.—You can now go on with your statement.

The WITNESS.—This is material returned as loose rock which should have been returned as common excavation. (Reads):

District B, Station 3091 plus 80 to 3094.
Station 3270 to 3275 plus 89.
Station 3616 plus 15 to station 3623 plus 25.
Station 6824 to 6830.
Station 7041 to 7046.
Station 6920 to 6924.
Station 6761 to 6770.
Station 6774 to 6781.
Station 6789 to 6793.
Station 6782 to 6788.
Station 6815 to 6820.
Station 6841 to 6848.
Station 6902 to 6912.
Station 6915 to 6917.

And then the details of those:

District B, station 3091 plus 80 to 3094; loose rock 580, common excavation 290. My remarks are 'all common excavation.'

Station 3270 to 3275 plus 89; loose rock, 1330, common excavation, 155. My note is 'all common excavation.'

Station 3616 plus 15 to 3623 plus 25; loose rock, 2,000, common excavation, 740. 'All common excavation.'

Station 6824 to 6830: rock, 12,014, loose rock, 9,550, common excavation, 5,687. 'No rock in sight. Say one-eighth loose rock, rest common excavation.'

Station 7041 to 7046: rock, 150, loose rock, 300, common excavation, 1,050. 'All common excavation. No sign of rock or loose rock here.'

Station 6920 to 6924: borrow, loose rock, 6,600 yards, common excavation, 4,400 yards. The note is 'all looks like common excavation, may have been 50 yards loose rock south side.'

Stations 6761 to 6770: rock, 20,267 yards, loose rock, 18,409 yards, common excavation, 17,453 yards. 'May have been a few yards rock, 20, one-fifth loose rock, remainder common excavation.'

Stations 6774 to 6781: rock, 4,454 yards, loose rock, 4,864 yards, common excavation, 6,424 yards. 'May have been 10 yards rock and say 1,000 yards loose rock, rest common excavation.'

Station 6789 to 6793: rock, 4,352 yards, loose rock, 1,850 yards, common excavation, 1,233 yards. 'Except 150 feet east end all common excavation, say 600 yards loose rock at east end.'

Stations 6782 to 6788: rock, 996 yards, loose rock, 1,047 yards, common excavation, 8,860 yards. 'Fifty feet east end loose rock, all rest common excavation, no rock.'

Stations 6815 to 6820: rock, 4,127 yards, loose rock, 4,210 yards, common excavation, 4,326 yards. 'Say 2 boulders, 5 yards rock, one-eghth loose rock, remainder common excavation.'

Stations 6841 to 6848: rock, 3,000 yards, loose rock, 2,105 yards, common excavation, 1,445 yards. 'No rock in sight. May have been some loose rock owing to not being able to plough.'

Stations 6902 to 6912: rock, 8,751 yards, loose rock, 4,741 yards, common excavation, 5,145 yards. 'Little or no rock, considerable loose rock, say, one-third. Remainder common excavation.'

Stations 6915 to 6917: rock, 2,142 yards, loose rock, 1,395 yards, common excavation, 1,372 yards. 'No rock only say 100 yards loose rock, rest common excavation.' That is all in district 'B.'

Q. Is that the whole of it?—A. Not a quarter of it—well about a quarter.

The CHAIRMAN.—Perhaps we had better adjourn.

Mr. CLARKE.—The remainder of this report is of the same character, is it?.

A. Very much similar, excepting a portion—yes it is practically all figures.

By Mr. Clarke:

Q. Could not that be put in?—A. I am willing to put that in. I wish it to be distinctly understood that in this statement the figures that are given for rock and earth are the figures I got on the work, the remarks regarding them are not actual measurements, but only remarks of my own observations made when going through and looking at the material. I simply made then the memorandum I have given you there, I never measured it, they are approximations.

The statement in full is as follows:—

APPENDIX No. 3

EXHIBIT No. 2.

ILLUSTRATIONS OF PLACES WHERE MATERIAL RETURNED AS SOLID ROCK SHOULD HAVE BEEN LOOSE ROCK OR COMMON EXCAVATION.

DISTRICT B.

Sta. 3050—30 to 3056—75.
" 3210—60 to 3214—32.
" 3516—26 to 3521—81.
" 6710 to 6890, a number of cuts.
" 6824 to 6830.
" 6915 to 6917.
" 6947 to 6959.
" 6963 to 6969.
" 7033 to 7036.
" 7052 to 7062.
" 6789 to 6793.
" 6761 to 6770.
" 6841 to 6848.
" 6782 to 6788.

DISTRICT F.

Sta. 553—80 to 566.
" 891—50 to 898—50.
" 1383 to 1397.
" 2315 to 2323.
" 1145 Borrow Rocky lake.

DETAILS DISTRICT B.

Sta. 3050—30 to 3056—75:	
R. 2,500 Ldg.	Re-measure, no such R.
L.R. 197.	
C.E. 196.	A lot of C.E.
Sta. 3210—60 to 3214—32:	
R. 2,198 Ldg.	Quite an amount of other material than R. in this, say ¼ L.R.
Sta. 3516—26 to 3521—81:	
R. 1,562.	No signs of a stone.
L.R. 2,562.	
C.E. 10,829.	
Sta. 6710 to 6890:	
	A number of cuttings, in nearly all of which the return of rock seems excessive.
Sta. 6824 to 6830:	
R. 12,014.	No rock in sight.
L.R. 9,550.	Say one-eighth L.R., remainder C.E.
C.E. 5,687.	
Sta. 6915 to 6917:	
R. 2,142.	No. R.
L.R. 1,395.	Only, say, 100 L.R., rest C.E.
C.E. 1,372.	
Sta. 6947 to 6959:	
R. 42,460.	This seems all C.E., no R., but a percentage of
L.R. 26,558.	L.R., say 25 per cent for boulders, some of
C.E. 37,154.	it good ballast.
Sta. 6963 to 6969:	
R. 7,375.	Nothing but C.E. in sight.
L.R. 4,560.	
C.E. 9,115.	
Sta. 7033 to 7036:	
R. 5,790.	No rock.
L.R. 3,850.	Say 1,000 L.R.
C.E. 5,360.	Rest C.E.
Sta. 6789 to 6793:	
R. 4,352.	Except 150′ east end, all C.E., say 600 L.R.
L.R. 1,850.	in E. end.
C.E. 1,233.	
Sta. 7052 to 7062:	
R. 3,446.	Looks like, say 10 R.
L.R. 4,329.	300 L.R.
C.E. 14,143.	Rest C.E.
Sta. 6761 to 6770:	
R. 20,267.	May have been a few yards R.
L.R. 18,409.	One-fifth L.R., remainder C.E.
C.E. 17,453.	
Sta. 6841 to 6848:	
R. 3,000.	No. R. in sight.
L.R. 2,100.	One-eighth L.R., remainder C.E.
C.E. 1,445.	
Sta. 6782 to 6788.	
R. 996.	
L.R. 1,047.	50′ east end L.R.
C.E. 8,860.	All rest C.E., no R.

DETAILS, DISTRICT F.

Sta. 553—80 to 566:
S.R. 4,730 S.
L.R. 9,672.
C.E. 2,807.

Sta. 558—50, dug down 6′ south from centre of track 3·8 feet, good ballast, from appearances this whole cut is C.E., but may be a few yards of rock in boulders.

Sta. 891—50 to 898—50:
R. 1,159 in boulders.
L.R. 6,649.
C.E. 35,132.

Cut all sand and gravel, very few stones.

Sta. 1383 to 1397:
R. 427 Blds.
L.R. 24,033.
C.E. 34,275.

Ballast pit.
No boulders in sight.
All sand and little clay.

Sta. 2315 to 2323:
R. 2,750.
L.R. 1,950.

Something wrong here.
R. should not be more than ⅓ of all in cut, and ⅔ remainder C.E.

Borrow pit Station 1145, Rocky Lake:
R. 2,016.
L.R. 4,936.

Top ploughed and scraped.
No sign rock in pit.

ILLUSTRATIONS OF POINTS AT WHICH MATERIAL RETURNED AS LOOSE ROCK SHOULD HAVE BEEN RETURNED AS COMMON EXCAVATION.

DISTRICT B.

Sta. 3091—80 to 3094.
" 3270 to 3275—89.
" 3616——15 to 3623—25.
" 6824 to 6830.
" 7041 to 7046.
" 6920 to 6924, Borrow.
" 6761 to 6770.
" 6774 to 6781.
" 6789 to 6793.
" 6782 to 6788.
" 6815 to 6820.
" 6841 to 6848.
" 6902 to 6912.
" 6915 to 6917.

DISTRICT F.

Sta. 659—15 to 662.
" 815, Borrow.
" 1080—15 to 1086.
" 1093—80 to 1096—50.
" 1383 to 1397.
" 1499 to 1508.
" 1726 to 1742.
" 1837 to 1841, Borrow.
" 1913 to 1931, Muskeg.
" 34, 97, 3 Borrow Pits.

DETAILS, DISTRICT B.

Sta. 3091—80 to 3094:
L.R. 580.
C.E. 290.

All C.E.

Sta. 3270 to 3275—89:
L.R. 1,330.
C.E. 155.

All C.E.

Sta. 3616—15 to 3623—25:
L.R. 2,000.
C.E. 740.

All C.E.

Sta. 6824 to 6830:
R. 12,014.
L.R. 9,550.
C.E. 5,687.

No R. in sight.

Say one-eighth L.R., rest C.E.

Sta. 7041 to 7046:
R. 150.
L.R. 300.
C.E. 1,050.

All C.E.
No sign R. or L.R. here.

Sta. 6920 to 6924, Borrow:
L.R. 6,600.
C.E. 4,400.

All looks like C.E.
May have been 50 L.R. south side.

Sta. 6761 to 6770:
R. 20,267.
L.R. 18,409.
C.E. 17,453.

May have been a few yards R. 20.
One-fifth L.R., remainder C.E.

Sta. 6774 to 6781:
R. 4,454.
L.R. 4,864.
C.E. 6,424.

May have been 10 R., and say 1,000 L.R., rest C.E.

Sta. 6789 to 6793:
R. 4,352.
L.R. 1,850.
C.E. 1,233.

Except 150′ east end, all C.E.
Say 600 L.R. at east end.

APPENDIX No. 3

DETAILS, DISTRICT B.—*Continued.*

Sta. 6782 to 6788:	
R. 996.	50′ east end L.R.
L.R. 1,047.	All rest C.E. No R.
C.E. 8,860.	
Sta. 6815 to 6820:	
R. 4,127.	Say 2 Bds. 5 yds. R.
L.R. 4,210.	One-eighth L.R., remainder C.E.
C.E. 4,326.	
Sta. 6841 to 6848:	
R. 3,000.	No R. in sight.
L.R. 2,105.	May have been some L.R. owing to not being able to plough.
C.E. 1,445.	
Sta. 6902 to 6912:	
R. 8,751.	Little or no R.
L.R. 4,741.	Considerable L.R., say one-third.
C.E. 5,145.	Remainder C.E.
Sta. 6915 to 6917:	
R. 2,142.	No R.
L.R. 1,395.	Only say 100 L.R., rest C.E.
C.E. 1,372.	

DETAILS, DISTRICT F.

Sta. 659—15 to 662:	
L.R. 2,324.	All C.E., except possibly 5 yds. L.R.
C.E. 405.	
Sta. 815 Borrow:	
L.R. 1,050.	All C.E.
C.E. 1,050.	
Sta. 1080—15 to 1086:	
L.R. 2,255.	All C.E.
C.E. 251.	
Sta. 1093—80 to 1096—50:	
R. 90.	
L.R. 500.	No stone in sight.
C.E. 502.	
Sta. 1383 to 1397:	
R. 427 Blds.	No boulders in sight.
L.R. 24,033.	
C.E. 34,275.	All sand and little clay.
Sta. 1499 to 1508:	
L.R. 4,679.	Not a boulder.
C.E. 3,046.	
Sta. 1726 to 1742:	
L.R. 7,049.	Muskeg all C.E.
C.E. 4,985.	
Sta. 1837 to 1841, Borrow Pits:	
L.R. 1,743.	All C.E.
C.E. 2,614.	
Sta. 1913 to 1931:	
L.R. 6,197.	Muskeg Borrow.
C.E. 6,762.	C.E.
Sta. 3497, Three Borrow Pits:	
L.R. 34,575.	Ploughed and scraped.
C.E. 30,750.	

ILLUSTRATIONS OF PLACES WHERE CROSS SECTIONS SHOWING LEDGE ROCK WERE ERRONEOUS.

DISTRICT B.

Sta. 3001 to 3015—30.
" 3033—40 to 3043—01.
" 3050—30 to 3056—75.
" 3126—40 to 3144—68.
" 4063 to 4071—20.
" 5818 to 5826.
" 5842 to 5858.
" 3851—83 to 3858.
" 3945—59 to 3955—36

DISTRICT F.

Sta. 627—50 to 638—50.
" 553—80 to 566.
" 2315 to 2323.
" 2230 to 2240—50.
" 8319—16 to 8324—71.
" 8133 to 8140—19.
" 8144—44 to 8152—25.
" 8439—32 to 8457.
" 9121 to 9139—62.
" 1188 to 1171.

DETAILS DISTRICT B.

Sta. 3001 to 3015—30: Rock 4,040 Ld. L. Rock 2,265. C.E. 755.	Re-measure.
Sta. 3033—40 to 3043—01: Rock 3,255 Ld. L. Rock 1,177. C.E 1,176.	X sections not O.K.
	Re-measure for rock.
Sta. 3050—30 to 3056—75: Rock 2,500 Ld. L.R. 197. C.E. 196.	X sections not O.K.
	Re-measure.
Sa. 3126—40 to 3144—65: Rock 5,496 Ld. Rock 3,213. L.R. 7,900. C.E. 2,630.	No such R.
	Re-measure.
Sta. 4063 to 4071—20: R. 5,846 Ld. R. 5,244. L.R. 951. C.E. 1,144.	X section not O.K.
	There is no such ledge rock here. 5 ft. or 6 ft. in centre on top not R. Have this re-measured.
Sta. 5818 to 5826: R. 39,864. L.R. 12,908. C.E. 125.	Very much too much R. Apparently only little in ledge.
Sta. 5842 to 5858:. R. 32,072.	Sta. 5852—80 rock comes down to grade. North side, 5852—50 25 ft. high N. x 6 ft. S. Without X sections impossible to tell.
L.R. 2,642.	Should be much less R. and more L.R.
Sta. 3851—83 to 3858: R. 7,800. L.R. 9,150. C.E. 406.	Not measured, classified. Re-measure to show ledge.
Sta. 3945—59 to 3955—36: R. 6,562. L.R. 2,400. C.E. 677.	This cut to be re-measured. No ledge shown on X sections. Nothing like this amount of R.

DETAILS, DISTRICT F.

Sta. 2315 to 2323: R. 2,750. L.R. 1,950.	Something wrong here. R. should not be more than ⅓ of all in cut, and ½ remainder C.E.
Sta. 2230 to 2240—50: O.B., R. 9,477. L.R. 9,146.	R. not there. See X sections.
Sta. 8439—32 to 8457: R. 5,065. O.B. 3,021 R. 11,756 Blds. R. 324 Ass.	Re-measure. Too much in boulders.
Sta. 9121 to 9139—62: O.B. 4,400 R. 11,518.	Not. O.K. Re-measure.
Sta. 1188 to 1171: O.B. 6,958 R. 12,160. R. 4,856. L.R. 1,189.	Cross sections do not show ledge rock.
Station 627+50 to 638+50: Rock 1,646 Ldg. Rock 4,266 Ass. L.R. 11,290. C.E. 343.	Sta. 634+25. No assembled R. Sta. 635+25. Could find no ledge rock north as shown on + section. Dug in places where McHugh said ledge rock north side, but could not find.
Sta. 553+80 to 566: S.R. 4,730. L.R. 9,672. C.E. 2,807.	Sta. 558—50. Dug down 6 ft. south from centre of front 3·8 ft.; good ballast; from appearances this whole cut is C.E., but may be a few yards rock in boulders.
Sta. 8319+16 to 8325+71: R. 20,829. R. 1,859 Ass.	+ section not right.
O.B. 8,354.	Re-measure.

Mr. LUMSDEN.

APPENDIX No. 3

DETAILS, DISTRICT F.—*Continued.*

Sta. 8133 to 8140+19:
R. 9,878.
R. 1,262 Ass.
O.B. 5,208.
Re-measure.
This cut has a lot of L.R. and C.E. in it. Cross sections have been returned not showing ledge but all rock.

Sta. 8144+44 to 8152+25:
R. 11,199.
R. 3,145 Ass.
L.R. 1,131.
C.E. 12,600.
O.B. 8,356.
Re-measure.
Not right.

ILLUSTRATIONS OF POINTS WHERE ENGINEERS DID NOT MEASURE ROCK, EITHER BY CROSS SECTIONS, OR MEASUREMENTS OF INDIVIDUAL PIECES.

DISTRICT B.

Sta. 3851 to 3858.
" 5239 to 5246.
" 5324 to 5328.

DISTRICT F.

Sta. 2375 (3 cuts).
" 3540—75 to 3556—80.
" 1503—50 to 1507.
" 1188 to 1171.
" 611—25 to 619—25.
" 8133 to 8140—19.

DETAILS DISTRICT B.

Sta. 3851—83 to 3858.
R. 7,800.
L.R. 9,150.
C.E. 406.
Not measured.
Classified only.
Remeasured to show ledge.

Sta. 5239 to 5246:
R. 250.
L.R. 7,952.
C.E. 3,407.
Classified by percentage.
Looks about all C.E.

Sta. 5324 to 5328:
R. 2,000.
R. 238.
L.R. 667.
C.E. 202.
Classified by percentage.

DETAILS DISTRICT F.

Sta. 2375:
3 cuts in vicinity classifier by percentage.

Sta. 3540—75 to 3556—80:
R. 5,320.
R. 430, Ass. and Blds.
L.R. 8,000.
C.E. 4,870.
Made no measurements for solid rock in boulders.

Sta. 1503—50-- to 1507:
R. 435.
L.R. 652.
Engineer on ground stated solid rock not measured.

Sta. 1188 to 1171:
R. 17,016.
A.R. 4,856.
L.R. 1,189.
Cross sections do not show ledge separated from assembled rock.

Sta. 611—25 to 619—25:
R. 3,612.
L.R. 2,408.
C.E. 1,915.
McHugh said this was classified by percentage.

Sta. 8133 to 8140—19.
R. 9,878.
A.R. 1,242.
O.B. 5,208.
Cutting returned as all rock on cross sections, ledge rock not separated.

ILLUSTRATIONS OF PLACES WHERE EXCESSIVE OVERBREAK ALLOWED.

DISTRICT F.

Sta. 3394 to 3420:
" 4585—54 to 4591—35.
" 4623—90 to 4634—68.
" 4702—79 to 4710—20.
" 1965 to 1955.
" 1732 to 1716, East lake.
" 1414 to 1399.
" 1250 to 1238.
" 1188 to 1171.

Sta. 3394 to 3420:
" 1130 to 1126.
" 1097 to 1091.
" 1007 to 1004.
" 7614—02 to 7623—50.
" 7668—65 to 7687—50.
" 7955—82 to 7973.
" 8472—78 to 8484—50.

DISTRICT F.

Sta. 3394 to 3420:
Rock O.B. 21,373.
Total rock 68,624 cubic yards.

R. 47,251.
L.R. 1,849.
C.E. 640.

Of which about 12,000 cubic yards was wasted on the top near centre of cut.

Sta. 4585—54 to 4591—25:

R. 10,436.
O.B. 6,311.

About 3,000 wasted. 16,747.

Sta. 4623+90 to 4634+68:

R. 23,232.
O.B. 17,713.

A very large amount of waste. 40,945.

Sta. 4702+79 to 4710+20:

R. 15,618.
O.B. 9,932.

2,000 O.B. should be cut out for waste. 25,550.

Sta. 1965 to 1955:

R. 14,218.
R. 809 Ass.
O.B. 6,418.
L.R. 486.
Total R=21,445.
C.E. 347.
A very large proportion of this O.B. has been wasted.

Sta. 1732 to 1716:

R. 31,461.
O.B. 17,121.
L.R. 1,661.
Total rock 48,582.
A very large proportion of this O.B. has been wasted and was unnecessary.

Sta. 1414 to 1399:

R. 33,172.
O.B. 27,120.

Total R. 60,292.

A very large amount wasted.

Sta. 1250 to 1238:

R. 35,551.
R. 738 Ass.
O.B. 36,514.
L.R. 1,698.
Total ledge 72,065.
A very large amount wasted.

Sta. 1188 to 1171:

R. 12,166.
O.B. 6,958.
R. 4,856 Ass.
Total ledge rock, 19,118.
L.R. 1,189.
A large amount of waste.
Cross sections do not show ledge rock.

Sta. 1130 to 1126:
R. 18,804.
O.B. 7,998.

A lot of waste.

APPENDIX No. 3

DISTRICT F.—*Continued.*

Sta. 1097 to 1091: R. 5,655. O.B. R. 2,517.	All O.B. wasted.
Sta. 1007 to 1004: R. 3,697. O.B. R. 2,387.	Nearly all O.B. wasted.
Sta. 7614—02 to 7623—50: R. 5,765. R. 2,490 Ass. O.B. 4,457. L.R. 2,228. C.E. 744.	O.B. all wasted.
Sta. 7668—65 to 7687—50: R. 25,177. O.B. R. 10,001. R. 5,307 Ass. R. 5,306 Blds.	A large proportion of O.B. wasted.
Sta. 7955—82 to7973: R. 19,894. O.B. R. 10,741. R. 2,623 Ass. L.E. 10,797.	A large amount wasted.
Sta. 8472—78 to 8484—50: R. 22,509. O.B. R. 11,080. L.R. 3,140.	Very large amount of O.B. wasted.

Mr. BARKER.—Are those all the papers you have?—A. Those are all the papers in connection with that portion of it—I have papers in connection with the evidence given by the engineers on the ground.

By Mr. Lennox:

Q. Let us have them; that is the sworn statements you refer to, have you sworn statements?—A. I have a memorandum, I have a copy of the evidence.

By Mr. Barker:

Q. In the beginning of your statement you referred to statements made on the ground by engineers, to statements made in writing, are they all in now?—A. No, I have not put that in.

Q. Why not just put them in and complete your evidence?

Mr. MACDONALD.—He has not the originals.—A. I have a copy of the evidence I got from the stenographer who took the evidence.

By Mr. Macdonald:

Q. Is the original in the hands of the Commission?—A. I do not know, I fancy it is in the possession of the arbitrators; this evidence was taken by the arbitrators, of course I have to use that. What I mean to say is that I have to use that information given by the engineers on the ground.

Mr. LENNOX.—Mr. Lumsden says in his statement that there were certain admissions made by the engineers on oath, and those admissions were made by the engineers in his presence, and he has a copy of that evidence, that is as I understand the matter. Now, we ought to have that put in.

Mr. MACDONALD.—The best way is if there were any statements made by anybody to get the original statements; if we cannot get the original statements we will get a copy.

Mr. LENNOX.—There may be no original of the evidence.

Mr. SMITH, K.C.—Surely you are not going to put in before the committee the evidence—if it is proposed to place before this committee the evidence taken before the

arbitrators I would suggest that would be a most improper proceeding. These people will all be brought up here as witnesses, you are going to examine them, surely you are not going to take evidence taken somewhere else before another tribunal.

Mr. BARKER.—We only ask that Mr. Lumsden should do what this committee has ordered him to do, produce the papers.

Mr. LENNOX.—I differ entirely from Mr. Smith's view of this matter. What I understand the witness to say is this. 'I resigned by reason of certain things I ascertained by going over this territory, part of it was by observation of my own, I have notes taken of that, and I put in the notes; in part my conclusion was arrived at by sworn admissions made by the engineers as I was going over the work,' that is the ground-work upon which he founded his resignation and upon which he made that statement. Now, Mr. Chairman, I submit there can be no question at all that if we are to ascertain whether Mr. Lumsden had or had not good ground for making that statement, we must take the ground upon which he made the statement, and the ground upon which he made that statement was the sworn admission of the engineers made at the time he went over the ground. He has that in his clothing, he has that upon his person now, he can give us that statement which was taken down in his presence and we can ask him: Did you hear that statement made on oath? They are the extended notes of the stenographer and the evidence in itself can be made abundantly clear by what the witness can tell us. There is no doubt about it at all, but Mr. Smith objects to that because it may be involved in the question of subsequent arbitration, arbitration being pending now.

Mr. SMITH.—That is not the reason at all.

Mr. CLARKE.—If you will excuse me that is not it.

Mr. LENNOX.—Then let Mr. Smith restate it.

Mr. SMITH.—I say it would be contrary to every precedent to put in before this tribunal evidence taken before an entirely different tribunal, when the witnesses are not here, and subject to being examined. If they are able to give any information that is of value and germane to the question, let them be examined by this committee, but here is something that came out 500 miles away, out on the road, taken there by the stenographer, which would not be admitted unproved in any court, and to attempt to admit that holus bolus before this committee is I think without precedent.

Mr. LENNOX.—The committee is sitting upon the question whether Mr. Lumsden had proper ground for tendering his resignation and for the statements that he made.

Mr. MACDONALD.—That is not the point at all.

Mr. LENNOX.—Now, Mr. Lumsden is here and he is asked whether he made that statement. We are investigating it. He said one of the reasons I had for making it was my own observation, and the other reason was the sworn admissions made by the engineers on the ground in his presence. It is not to be presumed that these engineers made damaging statements to themselves unless they were compelled by the facts to make them, and surely it is proper that we should have those statements before us for the purpose of investigating whether Mr. Lumsden was or was not justified in making the statements which he made in his letter. We have started out by taking his notes and we have the same right to have his further evidence.

Mr. CLARKE.—He is here for examination on his notes.

Mr. BARKER.—And also for cross-examination on what he says these men stated in his presence.

Mr. CLARKE.—But these men are not here.

Mr. LENNOX.—What we are getting at is probably a compromise to some extent. If Mr. Lumsden will leave this evidence with the Chairman without any of us seeing it, leaving it here so as to have it here if we want it again I will be satisfied for the present.

Mr. MACDONALD.—I would like to find out what Mr. Lumsden is speaking about, apparently Mr. Lennox knows, but I do not.

APPENDIX No. 3

By Mr. Macdonald:

Q. Do I understand you to say, Mr. Lumsden, that in this memorandum you have given to us, these notes are what you refer to as showing there was a disregard of the instructions given by you?—A. Yes, or a misunderstanding of the specification.

Q. Or a misunderstanding of the specification. These are the specific instances in which you say there was a disregard of the instructions or a misunderstanding of the specifications which caused you to resign?—A. Yes, that is, their classification did not agree with my idea of what it should be.

Q. Or with what you thought your instructions were. And you say these engineers made certain statements to you besides?—A. Yes.

Q. Are those engineers that you speak of as having made those statements, the engineers that you refer to here as being a portion of the staff who were responsible for the classification?—A. There were a portion of them, yes.

Q. And they made these statements to you in your capacity as chief engineer of the road?—A. I was chief engineer at the time the statements were made.

Q. Did you report them to the Commission?—A. I cannot say whether I reported them directly to the Commission or not, verbally; I certainly made no written report, I think I verbally did so.

Q. Did you forward those statements that were made by the engineers to the Commission?—A. No.

Q. They are not on record there?—A. They were taken by the arbitrators in that arbitration.

By the Chairman:

Q. What you are speaking about is the evidence before the arbitration?—A. Yes, that is what I am speaking about.

Q. I do not think we can have that evidence?—A. But that had an effect on me.

By Mr. Macdonald:

Q. These statements that were made were made to you and Mr. Schreiber and Mr. Kelliher when you were arbitrating?—A. Yes.

Q. I suppose those statements are still before Mr. Schreiber and Mr. Kelliher in the arbitration which is now going on?—A. I cannot say as to that.

Q. The statement that you have is not the original statement?—A. It is a typewritten copy without any signature.

By the Chairman:

Q. Of the evidence taken before the arbitrators?—A. Yes.

By Mr. Wilson:

Q. And not signed?—A. It is not signed.

Mr. BARKER.—The evidence was heard by him

By Mr. Macdonald:

Q. Then I suppose the originals of these statements will be before the arbitrators?—A. Whether they would be now or not, I cannot say.

Q. Who was the man who had the custody of the original documents in the arbitration, Mr. Schreiber?—A. I cannot say who had them.

Q. Were any of these statements signed?—A. I am not prepared to say.

Q. How were they taken?—A. They had a stenographer.

Q. That is, you would take a cutting, and the stenographer would take down the result of your conversation?—A. They generally took them either in the car or in the room, or somewhere.

Mr. MACDONALD.—It seems to me, as far as we know, Mr. Lumsden has given us the notes of his own personal observation. Now he says he is unable to give us the names of the staff whom he says were responsible for the classification.

By Mr. Macdonald:

Q. I suppose this portion of the staff were some of the men who made these statements, were they not?—A. Yes.

Mr. LENNOX.—I understood him to say he could give a memorandum of a great many of them.

Mr. MACDONALD.—What I would suggest would be the best way, if we are going to get a complete statement from Mr. Lumsden as to why he took the course he did, is that he should hand in to-morrow or whatever time we may determine, a statement of the engineers against whom he complained, which he has not done, and he could state in reference to those particular engineers who made statements to him what they said to him, and he could make his own memorandum of it. That would be all right. It is no use of his handing in statements of engineers against whom he made no complaint. But if he says that Phillips and somebody else are the men whom he lost confidence in let him hand in a memorandum of the statements which he says they made to him.

Mr. LENNOX.—I do not see how that memorandum would differ——

Mr. MACDONALD.—It would be helpful.

Mr. LENNOX.——would differ from the evidence he has before him. The best evidence from which to make a memorandum would be the sworn statement as he has it before him.

Mr. MACDONALD.—Do not let us confuse matters. It is not a sworn declaration. I understand what was done was that a stenographer took notes of certain conversations and the questions asked of the engineers as they went along. That is what I think he did.

Mr. LENNOX.—That is what he says.

Mr. MACDONALD.—The only part relevant is the statements of the engineers in whom he says he lost confidence. I say let him bring his statement of the engineers in whom he lost confidence, let him make out his supplementary statement.

Mr. LENNOX.—In other words, the engineers to whom he refers in his letter

Mr. MACDONALD.—That is right.

Mr. LENNOX.—In the meantime, is there any reason why that sworn evidence should not be deposited with the chairman.

Mr. MACDONALD.—No.

Mr. LENNOX.—Because that should be determined also if the other thing is settled. I think I am reasonably disposed.

Mr. MACDONALD.—You were very unreasonable this morning.

Mr. LENNOX.—But see what good came of it afterwards.

Mr. MACDONALD.—Where would you have been if it had not been for us.

By the Chairman:

Q. I understand that you were one of the arbitrators?—A. Yes.

Mr. LENNOX.—Every member of the committee has some rights here. I was on my feet when you interrupted me, Mr. Chairman.

The CHAIRMAN.—I beg your pardon; I did not see you.

Mr. LENNOX.—Under the circumstances, I will have to claim my right. Mr. Chairman, I ask if you are not going to order this sworn evidence to be put in—and if you do not do so I am not going to argue the matter any further—that you request Mr. Lumsden to give you his copy to be kept in your possession, so that if we find it necessary we can make use of it. There are two ways in which we can do that. One way is to put it in evidence before the committee itself. The next is that if we do not make use of it in that way we shall have it to confront those witnesses with if they should be called, and they would possibly be very glad of it. Under the circumstances, Mr. Chairman—and I am leaving the matter in your hands—I ask that you now obtain a copy of that evidence from Mr. Lumsden and keep it in your possession. We will

not ask you to use it until such time as the committee shall direct what shall be done with it.

Mr. MACDONALD.—Mr. Lumsden is not going to run away with the statement or burn it. At this stage what we are trying to do, and you will agree with the proposition, is to find out from Mr. Lumsden his reasons for the course he took and for the statements which he made. He has given us his notes, but not the names of the engineers to whom he refers, and I suggest that Mr. Lumsden prepare a list of the names of the engineers against whom he entertains an objection, and whose statements caused him to lose confidence in them, and that list can be attached to the list in question. I would like to get Mr. Lumsden's statement crystalized in better form. He has told us the districts where he says mistakes were made in the classification He should now tell us further who were the engineers that made the wrong classification. Let us get that information, then we can get at the facts and discuss them, Mr. Lennox.

Mr. LENNOX.—I have no objection at all to what Mr. Macdonald says.

Mr. MACDONALD. Is it not a fair proposition?

Mr. LENNOX.—I have no objection to it at all. At the same time I would like the committee to get the document which Mr. Lumsden has.

Mr. MACDONALD.—That is only a small matter. We will get possession of the document.

Mr. LENNOX.—It is a very important document.

The CHAIRMAN.—What is the difference of it being in my hands and in Mr. Lumsden's hands? Do you trust me better than you do Mr. Lumsden?

Mr. CLARKE.—I suggest that Mr. Lennox get a copy in his own hands.

By Mr. Macdonald:

Q. Could you hand us in for the next meeting of the committee a list of the engineers referred to?—A. I am afraid I cannot.

Q. You are afraid you cannot?—A. No, because there are a great many. I have given you the stations; the engineers can say who were on them, because in a great many cases the engineers when I was there on the ground and made these notes were not the engineers who had measured up the work.

Q. When you said you had lost confidence in the engineering staff, that does not apply to the whole staff, but only to a portion of them?—A. Yes.

Q. Who were responsible for the errors, and so on? Surely, with the material before you, your notes or whatever material you will have, you will be in a position to indicate to the committee what engineers on the staff you lost confidence in?—A. I cannot say that I can.

Q. You cannot say that you can?—A. No, because I have not got the names in my notes and I have not got the schedules.

Q. Could you not get a list of the engineers from the Commission?—A. They might furnish the list of the engineers, whoever was responsible for the work on these stations where they are mentioned.

Q. You must surely have had in mind when you made this statement, this very formal statement, to the Commission that you had lost confidence in certain of your staff. you must have had in mind the names of gentlemen in whom you had lost confidence,—A. Some of them.

Q. Could you give us a statement of those to-morrow?—A. I will try.

Q. And if you think that any of them made any statements to you in the course of your investigation you can attach those statements to it.—A. Can I attach copies of the statements made before the arbitrators?

Mr. BARKER.—You cannot have anything more definite than what the men said themselves.

The WITNESS.—I do not see how I can corroborate my statements regarding the engineers except in some instances through their own statements to me.

Mr. MACDONALD.—Of course you have to take your own course about that. What I would like to do at the inception of the investigation is to find out first whether you say these men disregarded your classification, and secondly who were the men who did that. Then we should know what we were going to investigate, and get a fair start. Subsequent to that you could put in any evidence you like that would be important information for the committee.

By the Chairman:

Q. Let us clear that up, you were one of the arbitrators?—A. Yes.

Q. At the time that you say these men made sworn statements before you on such and such a thing?—A. Yes.

Q. Those sworn statements were made before you when you were one of the arbitrators, one of the judges?—A. Yes.

Q. And that is the evidence which you propose to put before this committee?—A. That is the evidence that I have in connection with my resignation.

Q. This is evidence which you have heard as one of the arbitrators?—A. Yes.

Q. Which you now make the basis of your accusation, if I may call it so, against the engineers, and which you propose to put before this committee?—A. I thought I was asked for it.

Q. No, I do not think you were asked for it, I think it would be very irregular to take here any evidence which was given before the Board of Arbitration which after all is a Court of Justice.

Mr. BARKER.—Oh, yes it was.

The CHAIRMAN.—And that we should admit this evidence? Unless the committee see fit to do it I should be very much opposed to it.

Mr. BARKER.—As I understand it Mr. Macdonald and the other members of this committee insisted on a statement being made by Mr. Lumsden to-day.

The CHAIRMAN.—Yes.

Mr. BARKER.—They wanted to know what he charged and who he charged. He began that statement and at the beginning he said his action with regard to his resignation was based first upon his notes of what he found on inspection, and secondly on the statements made by the various engineers in his presence, and he mentioned also some other third thing he had. He began his statement, he has got through his notes.—

Mr. MACDONALD.—What was his third reason?

Mr. BARKER.—There were those two and there was another I think, but he based it upon his notes and the statements of the engineers, which was distinctly a part of that upon which he based his resignation. The majority of the committee insisted upon hearing him to-day, he has given his notes, he is now in possession of evidence here bearing upon statements made by the engineers upon oath, and upon those statements he sent in that resignation. I want to know if the committee is going to refuse to allow that evidence to be put in.

Mr. MACDONALD.—My hon. friend objected to taking the evidence to-day, he did not want to have evidence when we started out, but the committee decided to hear Mr. Lumsden make a statement as to what charges he made. I am asking Mr. Lumsden to tell us now the names of the men whom he said made wrong classification, to give us the names.

Mr. LENNOX.—I think we agree on that.

Mr. MACDONALD.—There is no use Mr. Barker talking about people wanting to have evidence, we want all the evidence there is to be obtained.

Mr. LENNOX.—Unfortunately the Chairman and Mr. Macdonald do not agree in their position. Mr. Macdonald says: 'Let Mr. Lumsden give a memorandum of the gentlemen to whom he referred in his letter, which is perfectly right, and attach to that the statements that he recalls were made by them in connection with their conduct on that particular part of the work.' That seems to be eminently fair, but unfortunately, if I understand the Chairman aright, he does not agree in that view. If

that is done I am satisfied for the present. I would like to have the statement filed here, as I said, however, if that is not the feeling of the committee let it go. Mr. Lumsden can make, I have no doubt, from those very statements of sworn evidence he has in his possession, he can pick out those engineers, or at all events some of them who appear not to have classified according to his understanding of the matter. Then he can probably give us some others from recollections and I do not know but that from the notes he has given us the Transcontinental Railway Commission can ascertain definitely who the engineers are.

Mr. MACDONALD.—That is all I want to do, I want to get it down to concrete shape.

The CHAIRMAN.—What I meant a few minutes ago is this that we should be very careful not to admit any evidence before this committee which is now before the Board of Arbitration, if we admit a part of it we admit the principle. Now you say you want Mr. Lumsden to come in here with sworn statements made before the Arbitration Board and admit that as evidence before this committee.

Mr. LENNOX.—I am willing to take what Mr. Macdonald suggests.

The CHAIRMAN.—If the committee wants it, but I still have to submit, that we should be very careful not to take evidence before another court, which has not been adjudicated upon yet, and put it right before this committee or we will have evidence taken to serve two different purposes in two different courts. I think we should be very careful before admitting that principle.

Mr. MACDONALD.—I think at this stage of this matter we want Mr. Lumsden to make a definite statement here, he has given us data in regard to places, and now we want to get data in regard to the men. He can do that at the first meeting of the committee, let us have it and then we can get down to some basis. Mr. Lumsden, might I ask you, can you make out a statement with what material you can get of the men whom you say you lost confidence in?—A. It is covered by these stations but I cannot tell myself the names of the men on those stations, except in some cases.

Q. But there must be some engineers that you had in mind when you penned your resignation, you could not have had the thing so indefinite?—A. Oh there are some, but there are a great many of those whom I do not know who they were.

Q. Give us the names of those you know and we can get down to that?—A. Yes.

Q. So that we may get to the point of what we have to investigate here? I understood you to say you do ont make charges against the Commission in regard to this?—A. Not in regard to this matter.

Q. And the question here is entirely between you and those engineers who you say classified contrary to your instructions, and who you say you lost confidence in?—A. I lost confidence in their carrying it out according to my ideas.

Q. And that was your reason?—A. That they had not carried it out according to my ideas.

Mr. MACDONALD.—After we get the names of those men Mr. Lumsden complains of we should notify them to be here and we should have an adjournment in order that they may be brought here.

Mr. LENNOX.—I move that our proceedings and the evidence be printed and reported to the House day by day.

The CHAIRMAN.—Reported to the House day by day, that means at different times.

Mr. LENNOX.—As a matter of fact we cannot get it done, but that is the way the motion reads.

The CHAIRMAN.—I shall have to be empowered by the House to have it done.

Mr. LENNOX.—My motion is that the evidence be printed and reported to the House day by day.

Mr. CROTHERS.—But we want to settle the question of counsel.

By Mr. Macdonald:

Q. Do you want any counsel?—A. No, I do not. I am only subpœnaed as a witness here.

Mr. CROTHERS.—I do not think it is becoming to members of this committee to get into a wrangle during the examination or cross-examination of witnesses. I think there ought to be counsel. We should endeavour to be as impartial as we can.

Mr. MACDONALD.—We had better leave the question over until to-morrow. We might consult the Minister of Justice in regard to it.

Committee adjourned.

WEDNESDAY, February 23, 1910.

The committee met at 11 o'clock a.m., Mr. Geoffrion in the Chair.

Testimony of HUGH D. LUMSDEN, continued:

The CHAIRMAN.—Have you brought the list, Mr. Lumsden, of those engineers which you were to give to the best of your knowledge?

WITNESS.—I have got a list of those, a memorandum here prepared of those whose evidence I have got.

The CHAIRMAN.—Will you give it to the committee?

WITNESS then read the following memorandum:

Exhibit No. 3.

OTTAWA, February 23, 1910.

With reference to the statement I read yesterday before this committee, and in compliance with the suggestion of Mr. E. M. Macdonald, M.P., that I should to-day furnish a list of the engineers on sections B and F in whom I lost confidence, attaching thereto the statements they had made in my presence, referred to in the memorandum that I gave the committee yesterday, I append the following list:—

P. Bourgeois, Division Engineer, division 7, district B, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 110-113 of the Evidence.

S. R. Poulin, District Engineer, district E, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 104-110 of the Evidence.

James R. Phillips, Resident Engineer, Residency 22, division 5, District F, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 98-99 of the Evidence.

A. P. Millar, Resident Engineer, Residency 25, division 6, district F, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, 100-101 of the Evidence.

W. W. Bell, Division Engineer, division 6, formerly resident engineer, district F, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 101-104 of the Evidence.

John J. McHugh, Resident Engineer, Residency 19, division 5, district F, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 95-97 of the Evidence.

George F. Richan, Division Engineer, division 5, district F, the statements made by him in my presence being set out in the annexed document. *See* Exhibit 3*a*, pages 93-95 of the Evidence.

In addition to the foregoing, from my personal examination on the ground, as indicated in the five illustrative statements handed in by me yesterday, I include

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those engineers who were responsible for improper classification, measurement, supervision, and inspection of material from sta. 3050-30 to sta. 6848, district B, west of Quebec Bridge, and also the engineers similarly responsible from the eastern end of the McArthur contract to the C. P. R. crossing near Rennie, in district F, at or near sta. 9186.

The district engineers of the commission can easily furnish the names of those responsible.

HUGH D. LUMSDEN.

Exhibit No. 3a, attached to foregoing Statement.

(Official Copy.)

Evidence Taken in Connection with the Arbitration of Matters in Dispute Between the Chief Engineer of the Transcontinental and Grand Trunk Pacific Railways.

Collingwood Schreiber, Esq., C.E., C.M.G., General Consulting Engineer to the Government; Hugh D. Lumsden, Esq., C.E., Chief Engineer, Transcontinental Railway; B. B. Kelliher, Esq., C.E., Chief Engineer, Grand Trunk Pacific Railway—Arbitrators.

Mr. GEO. F. RICHAN, Division Engineer, Division 5, District 'F,' called and sworn at Lost Lake Siding, on the 22nd day of May, 1909.

By Mr. Schreiber:

Q. How long have you been on the work here?—A. About two years. Do you mean construction?

Q. I mean on the construction of this division; was it at the commencement of the work of construction?—A. Not entirely; there was some work done then.

Q. What part do you take in the classification of the different kinds of excavation?—A. I go over the work with the resident engineers and discuss and advise them. When estimates come in I go over them. And on the next trip I advise them as I think, if too high or too low, so as to bring them to what is right.

Q. Did you particularly examine the cutting at Station 178?—A. Yes, sir.

Q. Did you find anything unusual about that as regards the return of solid rock? Have you at any time since?—A. Since the cutting was finished, it does not appear to be the same, but I remember at the time I was there it seemed quite justified.

Q. Do I understand you, that you saw the rock bared at 10 feet above grade, 12 feet at 178 and at another point 14 feet?—A. I could not say if it was 10 or 12 feet, I should judge it was down to grade. It was nearly all rock. Rest were boulders.

Q. You led us to understand then that these massive boulders were just in the prism as taken out in the cutting?—A. I do not know, but they showed between the prism.

Q. Would you not think it strange if there were not boulders on either side of the prism of that cut?—A. I think there are boulders beyond the prism of that cut. I think they are there yet. Of course the cut was wet and of soft clay, so that they would run down that way. It was frozen there. There were men working up to their knees in water.

Q. How would they be up to their knees in water if it was mostly all rock? Would they be in the wet or standing on rock? As I understand you, you say it was assembled rock?—A. Yes.

Q. Well, if it was assembled rock, how could they be up to their knees in water? Explain to us what assembled rock is?—A. The cut was filled with boulders, but the spaces between were filled with earth.

EXHIBIT No. 3A—*Con.*

Q. What do you call spaces between the boulders? Tell us what distance apart rock would be to be assembled rock?—A. They were touching. It would be the same as if a pile of rocks were put together and soft clay poured into them.

Q. With regard to loose rock. You have read the specifications, I suppose. Tell us your views of loose rock under specifications?—A. I do not know exactly how it reads. Loose rock, indurated clay, cemented gravel, material that cannot be ploughed with six horses.

Q. Did you go on the ground to see if it could be ploughed with six horses or not?—A. I never had it tested.

Q. Have you ever tested any of the measurements that have been taken?—A. Test measurements on the ground.

Q. Well, as I understand it, your check has always been in the office. Have you ever received any instructions as to how to classify from any one?—A. I do not know of any particular instructions, but I had advice.

Q. Who did you have advice from?—A. From Mr. Poulin, Mr. Grant and Mr. MacGillivray.

Q. Are Mr. Poulin's or Mr. Grant's instructions or advice similar?—A. I do not know whether they were the same.

Q. Did they differ materially?—A. It did differ some.

Q. Could you describe how they differed?—A. Mr. Grant's suggestions were for higher classifications than Mr. Poulin's.

Q. Any one else give you advice?—A. Not that I remember of.

Q. Ever receive any instructions from Mr. Lumsden as to classification?—A. Not about special cases. General instructions.

Q. Well, did you receive some instructions from Mr. Lumsden?—A. Yes, general instructions.

By Mr. Kelliher:

Q. Does this particular cut referred to by Mr. Schreiber conform to those instructions?—A. Cut at Station 178, I think it does in a general way.

Q. Was it on these instructions it was classified, or other instructions that guided you in that cut together with the specifications?—A. Yes, sir.

By Mr. Schreiber:

Q. You saw the shovel and pick used to-day in the sides of those slopes, I presume, and you saw that these holes were dug in original solid surface?—A. I think they were weathered more or less, because I am certain that the material was wet when the classification was made.

Q. Will you explain how the weather affected it?—A. It loosened it; I am referring to the clay.

Q. I want to know how it affected solid rock?—A. I do not know whether the weather affected it particularly.

Q. I see rock sticking out in the slopes in every case, why were you so particular in this cutting?—A. They were washed out. Cuttings do not all have the same material.

By Mr. Kelliher:

Q. Did you ever classify on other construction work? Was it the same?—A. I do not know if it was the same.

Q. Was there a difference in the specifications?—A. It was on the New York Central previous to 1905.

Q. Were those specifications at the time Mr. Wilgus was there?—A. It was on the Boston & Albany.

(EXHIBIT No. 3A.)

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Q. Was it the Boston and Albany specifications?—A. Yes, they did not have any particular standard, but specifications were drawn up for each contract.

Q. The New York Central has standard specifications for everything, and I think they were up to date?—A. We never used those.

By Mr. Lumsden:

Q. The cut at 459 plus 461.77 do you recollect that cut?—A. I cannot without the profile. That is a smaller one in the muskeg.

Q. Do you consider that all loose rock, with the exception of the common excavation?—A. I am not sure about the quantity, but I consider it mostly loose rock.

Q. Was it in stone or cemented material?—A. Stratified clay.

Q. Clay that could not be ploughed?—A. Yes, sir.

Q. Have you at any time on this work seen six horses plough any of it?—A. No, sir.

Q. Have you seen four horses?—A. There is very little ploughing done. I have seen four horses plough.

Q. On this division?—A. Yes, sir.

Mr. JOHN MCHUGH, Resident Engineer, Residency 19, Division 5, called and sworn, at Lost Lake Siding, on the 22nd day of May, 1909.

By Mr. Schreiber:

Q. What is your title?—A. Resident engineer, residency 19.

Q. Do you remember cut at Sta. 178?—A. The long cut at Pelican Falls. yes, sir.

Q. Would you describe the character of rock to be found there?—A. The rock in that cutting was what I would term, according to the chief engineer's interpretation of assembled rock, as solid rock, which laid in strata at bottom of the cut. It was to the best of my knowledge assembled rock.

Q. Do these rock touch one another?—A. In some cases they do and in some cases they do not.

Q. In what distance do you consider the spaces between stone should be?—A. That would all depend on the nature of the material in between; they would be any distance from nothing to a foot or two.

Q. They almost touched one another?—A. Yes.

Q. Would you not think it extraordinary if that condition of affairs existed only in the prism of the cutting? Do you think just in the prism, say ½ to 1, and face 22 feet, they would not exist on either side?—A. Yes, I would.

Q. Did you see tests made of the slopes there?—A. I was not there.

Q. Do you classify yourself?—A. With the assistance and advice of the divisional engineer.

Q. Does he give you advice in the office?—A. No, he confers with me on trips along the line.

Q. Do you have this conference along the line and look at special cases?—A. The divisional engineer comes along frequently and when I have anything particular I call his attention to the matter.

Q. Do you generally do all the classification yourself?—A. With the advice of the divisional engineer.

Q. What is the nature of the advice you speak of?—A. If I am in doubt, and am not decided on a certain point myself, I would call his attention to it. As to the big cut, I called his attention to the strata in that cut.

Q. Could you mention any particular special case to which you drew his attention?—A. I called his attention to that cut, as I knew it was in dispute.

Q. Cut at station 178?—A. Yes, cut at station 178.

EXHIBIT No. 3A—*Con.*

Q. Do I understand you, that in no case, have you returned any assembled rock other than where the rocks touched one another?—A. No, I would not say that. I would say that I have returned assembled rock in some cases where boulders have been a certain distance apart joined by material which makes the whole a conglomerate mass.

Q. Did you ever receive from Mr. Lumsden a diagram of what he considered assembled rock? Did you ever see anything of that kind?—A. I have a diagram.

Q. Does that diagram bear out what you say?—A. I cannot say exactly from memory if those stones in Mr. Lumsden's diagram do touch or are separated by other material.

Q. What is your view of it? They are bound to be separated by other material?—A. Well, it may be small of course, but it varies in size.

Q. Have you ever had any general instructions as to classification, and if so, from whom?—A. Yes, I had instructions from Mr. Richan, Mr. McGillivray, and also from Mr. Poulin.

Q. Any one else?—A. No, I cannot say I have.

Q. Mr. Grant ever give you any?—A. Mr. Grant has never given me any at all. Mr. Grant has just spoken to me regarding the work, I do not know that he said a great deal. I just walked along the work with him.

Q. Do you see any reason to modify what you say in regard to that cut at 178 ?—A. No, sir.

By Mr. Kelliher:

Q. You draw some distinction between the size of this rock and assembled rock?—A. No, sir, there might be from three inches to anything.

Q. Would you call it assembled rock where the mass would consist of entirely stone 3 inches in diameter that would touch one another and spaces filled with sand or clay?—A. Not with sand; with frozen clay, I possibly would. When it was not frozen I would not say so.

Q. Well, if it were frozen?—A. It would cause me a little thought.

Q. It is the frost and not the size of the stones?—A. It is, to my mind, when they have been cemented together in a mass that requires shooting.

Q. As far as they were not cemented at all, what would be the minimum size of each of these stones? Assuming that they would not measure one cubic yard, I understand you would not call them solid rock unless cemented together? —A. That is my contention.

Q. A mass of rock forming a whole prism of excavation without each rock practically touching one another unless these rocks individually measure one cubic yard and were not connected together with cemented material you would not consider them assembled rock?—A. If not connected with cemented material, I would not consider them assembled rock.

Q. Did you read Mr. Lumsden's instructions on assembled rock?—A. Yes, sir.

Q. How would you classify them under the conditions I mentioned?—A. I would classify them loose rock if they were not one cubic yard each.

Q. What would you call cemented material?—A. Cemented material may be any hard conglomerate material.

Q. Clay would not be considered cemented material?—A. I think clay under certain conditions may.

Q. What conditions?—A. Under frozen conditions.

Q. You cannot conceive any other conditions?—A. Under frozen conditions when you have a mass of clay chuck full of boulders.

Q. And it is only rock measuring over one cubic yard laying in masses that

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EXHIBIT No. 3A—*Con.*

you consider should be classified as assembled rock? If cemented material did not exist it would not be assembled rock?—A. It would not be solid rock.

By Mr. Lumsden:

Q. Have you ever seen six horses attempt to plough any of that work?—No, sir.

Q. Have you ever seen four?—A. In the first cut we tried four and had to give it up.

Q. Why?—A. Clay was very spongy on top and very wet until drained.

Q. It was not because it was too hard?—A. There were boulders in there to top of surface, and would divert the plough.

Q. What became of all that solid rock in that cut, where did it go?—A. It was hauled east and west into embankment.

Q. The amount of rock returned must be principally in the centre of the embankment?—A. I cannot say where it all is, but it must be there.

Q. Why particularly small amount at sides?—A. I cannot say how there happens to be more in the middle than elsewhere. The dump was built on trestle.

Q. Do you not think a side dumper would show these boulders outside the cut? More on outside than centre of embankment?—A. Not on soft and flat ground, as there was there, but I do not see why it should show more rocks than otherwise.

By Mr. Kelliher:

Q. Your specifications call for three classes of material, solid rock, loose rock, and common excavation. Assuming that the specifications would be placed in your hands to-morrow morning, and you were building a railway as chief engineer, and you let contracts on these specifications, would you classify material in the same way as this?—A. That would depend on whether I was allowed to classify on percentage basis.

Q. But you would be chief engineer?—A. Well, I would feel that, in certain cases, one would want a fuller explanation regarding certain material.

Q. But you would have to judge for yourself?—A. Well, solid rock would be solid rock in that case.

By Mr. Lumsden:

Q. In that case of this rip rap along the lake, where did that stone come from?—A. It came from part of this cutting.

Q. Was this stone included in the borrow pit?—A. I deducted all that material from loose rock quantities. These two borrow pits here are returned as loose rock and I deducted the quantities from the borrow as much as rip rap measured. This rip rap was all measured along here.

By Mr. Kelliher:

Q. What construction have you been on before you came here?—A. I was on the C.P.R. as instrument man on the prairie.

Q. As instrument man did you have occasion to classify?—A. No, sir.

Mr. JOHN J. MCHUGH recalled and sworn at Lost Lake Siding, on 23rd day of May, 1909.

By Mr. Schreiber:

Q. What kind of material do you adopt in classifying loose rock?—A. I classify as loose rock all pure clay or cemented gravel and percentage of softer material when frozen.

Q. Have you all your notes of measurements of boulders?—A. Very few.

EXHIBIT No. 3A—*Con.*

Mr. JAMES R. PHILLIPS, Resident Engineer, Residency 22, Division 5, called and sworn on the 26th day of May, 1909.

By Mr. Schreiber:

Q. In the matter of boulders and loose rock, have you the measurements of those?—A. No, sir.

Q. Do you take measurements of each boulder?—A. No, sir.

Q. How do you arrive at quantities of solid rock and boulders?—A. By percentage.

Q. Do you adopt the same course in regard to loose rock and boulders?—A. Loose rock was always measured.

Q. Loose rock and boulders?—A. Not loose rock in small boulders; it is measured as a whole.

Q. Do you not measure each boulder?—A. No, sir.

Q. With respect to assembled rock shown on your cross sections, do you know positively if these represent assembled rock in that position as shown on the sections?—A. No, I don't.

Q. You saw some holes dug in the sections in which you showed assembled rock?—A. Yes.

Q. Did they satisfy you that there was not assembled rock shown there?—A. It did not satisfy me that there was no assembled rock.

Q. Did it satisfy you that those cross sections are correct? That there was no assembled rock under there?—A. Well, I——

Q. If it was correct at centre, why not at sides? Was that rock in position as shown on cross sections?—A. No, but it was in the cutting.

Q. Was the assembled rock in the line of the cross sections?—A. I do not suppose it was under that line.

Q. Was it or was it not?—A. It was not under that line.

Q. Why did you put the line there if it was not there?—A. I put the line there because I understood we had to show all classifications; that we had to show it on cross sections to balance our percentage.

Q. It proves not to have been there?—A. But it was in the cut.

By Mr. Lumsden:

Q. Was all the rock taken out at a foot below grade?—A. Yes, sir.

By Mr. Schreiber:

Q. Did you see every cutting on your section when it was being taken out from time to time?—A. I think I saw every cutting, most of them every day, while the work was in progress.

Q. As I understand you, this assembled rock was merely a percentage you believed to be in the cut?—A. That is correct.

By Mr. Kelliher:

Q. You state that you measured loose rock that was classified by sections?—A. Yes, sir.

Q. How did you measure it?—A. We kept the top of the solid rock face, and that was the base line for loose rock.

Q. How did you distinguish between solid and loose rock; you included all clay?—A. I did not have any clay; that was indurated.

Q. How do you mean?—A. Clay that cannot be taken out without shooting.

Q. Did you ever take these cross sections yourself?—A. Yes, sir; I measured some of these cuttings, but I do not think I measured cuts with common excavation.

(EXHIBIT No. 3A.)

APPENDIX No. 3

EXHIBIT No. 3A—*Con.*

Q. Do you always take cross sections with rock in ledge?—A. Yes, sir.

Q. Did you ever get any instructions as to how to classify on this work?—A. Yes; from the Chief Engineer.

Q. Is this the way you interpret his diagram regarding assembled rock?—A. Yes.

Q. Could you recall his explanation as to assembled rock?—A. It meant boulders cemented together.

Q. Do you confine your classification of assembled rock to boulders cemented together that require to be shot?—A. Where it was impossible to take any actual measurement at all and there was a large percentage of boulders, that cut, impossible to measure.

Q. Before the chief engineer issued instructions definitely, was it the practice on this work that a cut carrying boulders would be estimated as loose rock cut, with certain percentage of rock that would be returned as solid rock. After you received instructions from the chief engineer regarding assembled rock; when he instructed that all classified material should be shown at exact station at which it occurred on cross section sheets, was it then and only then, that you attempted to get at the exact measurements of solid rock, prior to that you were classifying everything as boulders?—A. We were classifying all the large boulders.

Q. It was then you tried to locate the assembled rock?—A. Yes.

Q. How did you locate them in many of the cuttings that were taken out?—A. We had to put in a percentage the same way in that.

Q. You had to keep within his instructions? He would accept percentage; you had to show exact yards of the rock?—A. We had to show them in our cross-section sheets.

Q. How did you locate the exact position of assembled rock which you had previously turned in as boulders scattered over the whole country?—A. We could not locate them.

Q. The locations shown on cross sections are imaginary?—A. Yes, sir, for assembled rock.

By Mr. Schreiber:

Q. Did you or did you not measure each boulder for the solid rock and boulders?—A. No, sir.

Q. Did you measure each boulder for the loose rock returned?—A. No, sir.

Q. There is a case in which there are 9,000 cubic yards of solid rock returned, station 2230 to 2240, plus 50, how did you arrive at the quantities of rock returned?—A. Solid rock was measured.

Q. In what way?—A. By actual cross section.

Q. Are you satisfied you are correct in the quantities?—A. Yes, I am satisfied.

Q. And there was no difficulty in making cross sections in that particular place?—A. No, sir.

By Mr. Lumsden:

Q. Have you ever, on this work, seen six horses try to plough any of it?—A. I would not like to be sure, but I think I saw them in this borrow pit down here.

Q. Have you ever seen four horses?—A. Yes, in borrow pit, past camp 4.

Q. What station is that?—A. About 2190; four horses were ploughing that cut out.

EXHIBIT No. 3A—*Con.*

Mr. A. P. MILLAR, Resident Engineer, res. 25, Division 6, called and sworn on the 28th day of May, 1909.

By Mr. Schreiber:

Q. Solid rock and boulders, do you measure each boulder?—A. Yes, sir.

Q. In that case, will you produce your book of records of measurements of boulders?—A. Yes, sir.

Q. In loose rock in boulders do you measure each boulder?—A. No, sir, not in loose rock.

Q. In many of your borrow pits, where the work is taken out by ploughing, in some cases with four horses, and some six, do you classify that as loose rock? —A. No, sir, I have not done so as loose rock, it has been on percentage basis.

Q. The question I asked you was this, whether those borrow pits, in which we see and know have been ploughed with four horses and six in others, do you return that as loose rock?—A. I have returned some as loose rock.

Q. Can you specify those you have returned as loose rock?—A. I do not think I can quite answer that question.

Q. Can you name what stations you have returned any material as loose rock that has been ploughed? Can you call to mind any?—A. Yes, sir.

Q. In your solid rock in ledge, explain how you measured that?—A. In some cases, where overlaying material has been taken out of cuttings, they have been cross-sectioned the same as cuttings having been solid rock in the first place.

Q. In all cases?—A. No, sir, in some cases, the stripping material overlaying cut has been taken out at the same time, pockets may have been blown up from below. In that case, taking the average of the two sides.

Q. At station 3540 to 3556, plus 80, there are 430 yards of assembled rock in boulders. Have you showed them in this book?—A. No, sir, these were measured as percentage.

By Mr. Kelliher:

Q. The boulders were not measured?—A. No, sir, there were no boulders measured on the east end.

Q. You said you measured all boulders?—A. Since we got instruction.

Q. How long ago?—A. A year ago.

Q. How long has the work been going on? Three and a half years altogether?— A. Three years last September.

Q. For about the first half of that period you did not measure the boulders at all?—A. No, sir.

Q. Did you measure them in the last half of the period, the boulders you classify as solid rock?—A. Yes, sir.

Q. Do you measure them yourself?—A. I measure them myself and some of my assistants do.

Q. What cut did you measure them in?—A. I measured them in small places like a ditch.

Q. We are not asking you about ditches, did you measure them in any cut on the construction of the road bed?—A. Yes, sir.

Q. What cut?—A. Station 4130.

Q. Did you measure them anywhere east of this?—A. No, sir.

Q. Was any measurement made of boulders anywhere east of your residency? —A. Yes, sir.

Q. You kept a man on specially for measuring boulders?—A. Yes, sir.

Q. In borrow pit 3499 to 3517, 34,575 yards of loose rock, and 32,280 yards of common excavation, making a total of 96,855 cubic yards in borrow pit, was that borow pit ploughed?—A. Yes, sir.

(EXHIBIT No. 3A.)

APPENDIX No. 3

EXHIBIT No. 3A—*Con.*

Q. How many horses?—A. At times there were four and sometimes as many as eight.

Q. Did you ever see eight?—A. No, I have never seen eight, I have seen six.

By Mr. Schreiber:

Q. Did you ever see any more than six horses on a plough?—A. No, sir.

By Mr. Kelliher:

Q. How did you arrive at the classification of 34,575 cubic yards of loose rock?—A. While I did not see six horses or more than six ploughs, still, by saying that six horses should plough that material properly handled, I believe they should be able to plough all day.

By Mr. Schreiber:

Q. Please answer the question. How did you arrive at the classification?—A. Judging the manner in which horses were able to handle it.

Q. Did not six horses handle it?—A. They did.

Q. Have you made any change in your mode of classification since you commenced. If so, when?—A. Yes, sir, about a year ago.

Q. Did you do that on your own initiative, or had you instructions?—A. No, sir, I suggested and had it approved.

Q. By whom?—A. My divisional engineer.

Q. Who was he?—A. Mr. McIntosh.

Q. Did he instruct you?—A. Yes.

By Mr. Kelliher:

Q. What did he instruct you to do?—A. I asked for approval of classification and he approved of it.

By Mr. Schreiber:

Q. What was the nature of that classification?—A. The turning in of clay as percentage of loose rock, and also returning frozen material as loose rock. I did not ask for loose rock at that time. I asked for a portion of loose rock.

Q. He gave you no other instructions than that in regard to classification?—A. Yes, sir.

Q. Tell us what his instructions were?—A. He instructed me, in some little cuts, to turn in a large percentage of rock occurring in boulders.

Q. Then he was aware, I presume, that you were making your classification in that way, and that you were not measuring, just estimating?—A. Yes, sir.

By Mr. Kelliher:

Q. Did I understand you correctly to say that he got you to raise the classification in several of those cuts along your residency?—A. Yes, that is right.

By Mr. Schreiber:

Q. Is it a fact that you did change the classification?—A. Yes, sir.

Q. And you made it a more generous classification?—A. Yes, sir.

Mr. W. W. BELL, Division Engineer, Division 6, called and sworn at Canyon lake, on the 30th day of May, 1909.

By Mr. Schreiber:

Q. Did you see some trial holes made yesterday in connection with assembled rock?—A. Yes, sir.

EXHIBIT No. 3A—*Con.*

Q. Were the holes put in the position you indicated?—A. Yes.

Q. The material that came out, did you consider that assembled rock, according to your judgment?—A. Perhaps not now.

Q. Did you, when you saw it there, classify it as assembled rock?—A. Not in the condition the material is now; not in all cases.

Q. What I want to arrive at is, in your judgment, is the material assembled rock, according to specifications?—A. Not in all cases.

Q. Did you receive instructions as to the correct classification of that material as assembled rock?—A. Yes, from Mr. McIntosh.

Q. Were you at that time, division or resident engineer?—A. Resident engineer.

Q. Was Mr. McIntosh your superior?—A. He was my division engineer.

Q. Did you, during the period you acted as resident engineer, measure the boulders which, according to the specifications, would be classified as loose rock?—A. Not every boulder.

Q. Will you describe how you did estimate it, loose rock and boulders?—A. The material in my estimation, that could not be ploughed.

Q. Would you consider that loose rock and boulders?—A. No.

Q. How did you proceed with your classification of loose rock and boulders?—A. Where boulders were very numerous, I classified it at so much per cent of loose rock.

Q. Did you take measurements of each rock?—A. Yes, sir, in some cases.

Q. Why did you make these measurements in some cases and not in all?—A. When instructions came along to measure all boulders I did so.

By Mr. Lumsden:

Q. Are you referring to what is classified as solid rock in boulders or loose rock?—A. Loose rock.

By Mr. Schreiber:

Q. Do you think that, in viewing a cut, you would be in a position to give a correct statement of the measurement in boulders by taking the percentage?—A. Not by just viewing a cut.

Q. In solid rock in boulders, while you were resident engineer, did you measure each boulder?—A. All rock that had not been returned as assembled rock measurements have been made.

Q. You can produce the books?—A. Yes.

Q. If we take it off these books, it will represent the measurements?—A. Yes.

Q. Suppose a cutting or borrow pit was ploughed with four or six horses, have you classified that as loose rock?—A. No, in no case.

Q. Since you have been division engineer, have you given orders to measure the boulders by percentage?—A. The boulders have been measured.

Q. You have all boulders, whether loose rock?—A. Since instructions came out, all boulders that have come in have been measured to the best of my knowledge. I have given orders to that effect.

By Mr. Lumsden:

Q. Loose rock and boulders?—A. Yes.

By Mr. Schreiber:

Q. Does this apply to a special part of your work?—A. It does not apply to a special part.

(EXHIBIT No. 3A.)

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EXHIBIT No. 3A—*Con.*

Q. Can measurements of loose rock from the beginning of the work be relied on?—A. There were no boulders then measured as loose rock.

Q. Could it be accurate?—A. Yes, in many cases, material observed is classified as loose rock.

Q. Could it be correct of boulders?—A. It would be according to my judgment.

Q. As far as you are enabled to get at it?—A. Yes.

Q. Do you think it would be as correct as if you measured each boulder?—A. I do not think it would be as absolutely correct as if I measured each boulder.

By Mr. Kelliher:

Q. In locating the assembled rock, was it taken by measurements on the ground and plotted on the section?—A. Yes, sir.

Q. How long ago since assembled rock was classified as solid rock?—A. I am not certain as to date, but I think it was a year ago last November.

Q. The estimate was changed backwards in order to provide for assembled rock classification?—A. I could not say when it was changed; before I would, I would like to see notes.

Q. What is your understanding as to assembled rock?—A. It is mostly all boulders exceeding one cubic yard; not necessarily each boulder exceeding one cubic yard, but all boulders cemented together which could be best removed by blasting.

Q. Would you call it assembled rock if these boulders were in loose clay or sand?—A. I would, if boulders were frozen together.

Q. What percentage of loose rock classification that you turned in would you classify as common excavation had it not been frozen?—A. I could not say offhand.

Q. Is the loose rock you turned in generally clay?—A. Quite a percentage of it.

Q. In ordinary circumstances?—A. Quite a percentage.

Q. Did you ever see a plough at work on your section?—A. Yes.

Q. How is that classified?—A. As common excavation.

Q. In no instance did you classify material ploughed with horses up to six as loose rock?—A. There was only one case where it was ploughed on my division and was returned other than common excavation.

Q. Was the stripping in the rock cuttings that we have come through classified as common excavation?—A. No, sir.

Q. In short approaches to rock cuttings, where there is common excavation, were they in any instance ploughed?—A. No; they only ploughed in one instance on this place. I was governed largely by the time it was taken out. If the stripping was overlaying rock it was taken out as solid rock.

Q. Where there was material other than solid rock, otherwise overlaying ledge, was it stripped?—A. Not in every case.

Q. In cases where it was not stripped, how did you classify it?—A. In cases where it was frozen, it was impossible to strip. And it was cross-sectioned when it was taken out, and the centre height was taken as the main height of the two elevations.

By Mr. Schreiber:

Q. Did you authorize the contractors to use these heavy blasts in which so much rock was taken out?—A. No, sir.

Q. While they were doing it did you draw their attention to it that they would not be paid for it?—A. No, sir; I told them they should not do it.

EXHIBIT No. 3A—*Con.*

Q. Did they respect what you said?—A. Yes, sir.

Q. Kindly mention a cutting in which that occurred?—A. I cannot at the moment mention a cutting.

Q. Were the contractors ever led to believe that they would be paid for overbreak?—A. No, sir; not by me.

Q. By any one to your knowledge?—A. No.

Mr. S. R. POULIN, District Engineer, District 'F,' called and sworn at Winnipeg on the 8th day of June, 1909.

By Mr. Schreiber:

Q. Were you familiar with the way the work on your district was being classified?—A. I was to a certain extent.

Q. Explain to what extent you refer?—A. Well, I know the work was supposed to be classified according to the interpretation given by the Chief Engineer, and my instructions were to classify the work according to the interpretation that had been given. Until I took charge of the work there had been certain disputes which came up between my predecessor and one or two of the division engineers. These were left to me, but they were left in abeyance until the Chief Engineer gave his interpretation of certain clauses. I have circulars that I issued at the same time and answers to the division engineers that work was classified according to interpretation.

Q. You did issue instructions to engineers in writing on the classification of the work generally?—A. Yes; I have copies of those circulars, one January 17, 1908, and April 2, 1909.

Q. Did you, on any occasion, give instructions to any of your engineers to classify borrow pits of clay, which were ploughed by teams of four or six horses, as loose rock?—A. I gave instructions to my division engineer on that portion near Wabigoon river not to classify borrow pits which were ploughed by four or six horses, but I went over that portion of the work, and every time I went there there were eight horses, and sometimes I saw six. The men that had been taken down there from the west were threatening to leave the work if some of them did not get loose rock. After discussions with division and resident engineers, we came to agreement that it would be fair to allow them 50 per cent of common and 50 per cent of loose rock in those borrow pits.

Q. Are you aware that your engineers (some of them) stated that those borrow pits, which were classified as loose rock, were ploughed by four or six horses, and that they never saw more than six horses plough?—A. I am not aware. I came to that decision after discussing the matter with the division engineers. In some cases there were four and six horses, and at other times there were more. That is the reason I came to that decision.

Q. Would you not think that the engineers on the work would be aware of eight horses ploughing?—A. Yes, and I took it from them that, at certain times, they were obliged to put on eight horses, which induced me to come to that conclusion. It is very hard to determine which layer they are using, four horses or six, or which is the hardest.

Q. Would you be surprised if the engineers had informed us that these pits had been ploughed by four horses?—A. I would be. It would be an untruth; they certainly had six.

Q. Do you know by whose directions, or by whose authority your engineers made cross sections of the cutting or parts of the cuttings showing ledge rock where none existed? Have you been aware that such was done?—A. I have been

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EXHIBIT No. 3A—*Con.*

aware that a certain amount of solid rock was returned where there was no ledge rock, and I certainly took occasion to send down my assistant several times to look into the matter.

Q. Who is your assistant?—A. At that time, I sent Mr. McGillivray; I have his report here, a copy of which was left with the Chief Engineer in Ottawa.

Q. Are you now aware that ledge rock was shown on cross sections where none existed?—A. I can only say that I am aware of what has been done in the present inspection; that, in some cases, they have returned ledge rock where none was to be seen. Whether it was due to the fact that there may have been assembled rock right over, I am not prepared to say.

Q. Are you aware of the cross-sections showing ledge rock where no ledge rock existed?—A. I am aware that in some cases ledge rock is shown on cross-sections where ledge rock did not exist.

Q. I am asking you whether ledge rock was shown on cross-sections where ledge rock did not occur and where assembled rock was shown?—A. As to assembled rock, I am aware of it, I would not swear to every point being that way.

Q. When were you first aware that your engineers made cross-sections showing assembled rock in cuttings where none existed?—A. This is the first time I was aware. I never had any occasion to suppose the contrary.

Q. Did you at any time or recently issue any orders or instructions as to classification of material into assembled rock which had been otherwise classified?—A. I did not issue any instructions to classify anything except by circular. At one time, on division 8, the face of the cutting had to be cleaned out, and I was told they were going to borrow and I told them to take it out of there, that it could be returned as assembled rock, as it was according to my opinion. That was all the instructions they received from me.

Q. Explain your understanding of assembled rock?—A. My understanding of asembled rock. If I took what the specifications say and the explanation given by the Chief Engineer it is very broad. According to that, almost anything can be called assembled rock. Even gravel. There were never any instructions given to that effect by myself.

Q. How would you construe gravel such as you spoke of as assembled rock, when it was clearly shown in the specifications that it is loose rock?—A. It is clearly shown in the specifications, but in this diagram which shows assembled rock, there is no scale shown. There is nothing that explains anything. I consider that this interpretation only makes the specifications worse than what it was to a young engineer.

Q. Do you remember the last wording of clause 34 in regard to solid rock?—A. May be best removed by blasting.

Q. Do you take into consideration the wording of the specification in connection therewith?—A. Certainly I do. In looking into the specifications, I look at it on the worst side. We have to meet the objections of those doing the work as well as ourselves. If the engineer is to be the judge at the same time, they have to have certain rights, and their interpretation has to be acted upon literally as it is worded.

Q. You are disregarding the specifications and sympathizing with the contractors and making your classification accordingly?—A. Not at all, contractors have certain rights. In my instructions to engineers, I told them, in every case, they were there as arbitrators, and if any doubt, in every case, to give the contractor the benefit of the doubt.

Q. Do I understand you that your engineers on the ground are not to be governed by the specifications, but as to whether or not the work is paying the contractor?—A. No, my instructions to the engineers on the ground were these. Classify the work according to the time it was being taken out. If the work

EXHIBIT No. 3A—*Con.*

had to be rushed, and the cut had to be opened in the winter, and the material was frozen, to return it as loose rock.

Q. You gave these instructions?—A. Yes.

Q. Point out to me in specifications or contract anything where that is based. Do I understand you that if the contractor is two or three years behind in his contract, does that look like a rush?—A. I had instructions from the Commissioners the date of the completion of the contract was finished. The time McArthur had to turn the work over to the commissioners was the 1st of October, 1907, and I left Ottawa the 3rd of October, 1907, I asked if time of contract had been extended. My instructions were no. "Go up and rush the work." I have had letters upon letters from the assistant chief engineer to have work completed by the fall of 1908, when there was only 20% finished. I wrote it was impossible to complete work. Every cutting had to be opened. If there is any penalty against the contractor, the commissioners have a course against him. I thought I was justified in rushing the work and returning the material according to circumstances, and when it was taken out.

Q. You would throw the specifications aside and use your own judgment?—A. The contract was signed in May, 1906, to be complete in September, 1907, when you take into consideration that the work had to be performed in about 16 months, there were eight months of winter, it was utterly impossible to do the work only in summer. In fact before I came on the work, instructions had been issued to return blasted material as loose rock.

Q. The instructions given by the chief engineer, were they of a general character, or were they one special case?—A. There were no instructions given to me by the chief engineer, in regard to loose rock outside of those, but the returning of frozen material as loose rock was being done before I came here and was general six months before I came.

Q. Is that the document in which you say instructions were given?—A. Yes.

Q. Have you any correspondence or memo. in your office from the chief engineer of other instructions?—A. I take full responsibility for telling my engineers to return frozen material as loose rock.

Q. Were instructions given by you that overbreak should be allowed even if caused by excessive use of explosives?—A. No, I never gave those instructions. I told some of the engineers to deduct amount that would not go in embankments, that went over face of cut. In places where rock borrow was necessary and it went into embankments, they could return it.

By Mr. Kelliher:

Q. Did you take any steps to prevent overbreak being allowed where cheaper material could be obtained as a substitute?—A. I have not been aware of any case where cheaper material could be obtained. You must remember that the work on a great many of these was carried on in the winter, and it was in the summer I went over the work. It was very hard to determine where borrow could be obtained. No possible borrow could be obtained from reports I had. I discussed those points with Mr. Mann and it was reported to me that no possible material could be obtained.

Q. Do you consider train fill as substitute?—A. It was not taken into consideration. As places of train fill had been determined and no rock borrow was going into train fill. There was very limited time to make any changes where there was a rock borrow determined upon; the rock borrow was almost completed in the winter.

By Mr. Schreiber:

Q. Do I understand you that you got this information from the various

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EXHIBIT No. 3A—*Con.*

engineers, because you could not, having been once over the road, observe those places?—A. I could not observe these places when rock borrow was determined. These rock borrows were to be commenced in winter, and it was from reports I had from division engineers, which I had gone into with Mr. Mann, and the rock borrow was decided with the sanction of the chief engineer. They were also submitted to the chief engineer before they were gone into.

Q. Would that not be in cases where you were crossing water stretches?—A. Here is a list of places.

Q. Did you or did any of your engineers to your knowledge give encouragement to the contractors to expect that they would be paid for excessive overbreak caused by large charges of explosives?—A. I certainly did not give encouragement to expect to be paid for excessive overbreak and am not aware that any of the division engineers have done so. In fact the excessive overbreak shown at present has only come to my knowledge within the last three or four months.

Q. Are you aware that Mr. Grant ever gave them any encouragement,—A. I am not aware of it; because I take the word excessive in your question, that is why I say I am not aware of it.

Q. Why did you order team work on some of the fills to be returned as train-hauled fill?—A. There were four fills which were returned as such, if I remember right. Three of them being near the Winnipeg river. These three at stations 855, 93 and 110 just east of the Winnipeg river crossing there were three temporary trestles. It was at the time I was going to Ottawa on the Hodgins investigation the division engineer told me that these three temporary trestles marked on profile as temporary trestle and train fill, if I wanted these done in summer Mr. McArthur had more than he could do with train filling, that certain parties were to take an outfit down and to do it all from the large pit at south to make these two fills. The whole borrow was supposed to come from 1,000 ft. south of here at station 88 about 1,200 ft. south. I told him if he made the three fills from that borrow pit it was just as advantageous to the commissioners. If he made these fills from borrow pit I would sanction it. If that agreement had not been made the fills would not have been done.

Q. Are you aware that taking it out of borrow pits would have been much less than train fill?—A. As it turned out afterwards. I was not aware of any borrow pits adjoining the fills.

Q. Did you inquire of your engineers as to whether common borrow could be had near the site of these?—A. I certainly did. I would not allow the two fills alone to be made unless they made the third one.

Q. Did the division engineer inform you that there were no borrow pits?—A. The division engineer told me there was no material.

Q. Was it known there was an available borrow pit to make fill at station 85?—A. Station 88.

Q. Why was that not used in the ordinary way to make fill at station 85?—A. They would not take outfit down unless they could get train fill.

Q. Would not McArthur do it? Did they not have a contract?—A. Yes, train fill price was arranged.

Q. By whose authority?—A. I had authority from the chief engineer. I had authority for special fills given to me. I mentioned there were three or four places where we might get fills made up by train fill, allowing train fill prices previous to track being laid.

Q. Have you that correspondence?—A. I have not got it here. I mentioned it to the chief engineer and these were marked on profile at the time as temporary trestle and train fill. I could not force McArthur to make them, as they were marked temporary trestle and train fill.

EXHIBIT No. 3A—*Con.*

Q. Do I understand you that the division engineer informed you that the material was there?—A. The division engineer informed me that there was only a pit at station 88, which I knew myself.

Q. Do I understand you that these three places were covered by instructions received from Ottawa as to train fill?—A. Yes, I do understand they were covered. There was a certain amount of latitude given to me in that respect.

Q. By whom?—A. By the position I had. By the commissioners.

Q. In writing?—A. No, but I certainly was not supposed to act as a perfect dummy in charge of work like this.

By Mr. Kelliher:

Q. Will you please explain why the fill made by teams from the Swanson borrow pit was first borrowed in the ordinary way as grading, and subsequently changed after the fill was completed to train haul fill?—A. This was one of the last fills to be made. There were 283,000 yards of material. When I passed there last time there were 11,000 yards of loose rock returned in that fill, and 2,000 yards of common. There were two scrapers working there when I passed in the fall of 1907. That is one of the places that started me to write to the chief engineer asking him to authorize me to make arrangements with the contractor. In a good many places where there were temporary trestles to be erected and to be filled later by train, I asked the chief engineer if he would authorize me to make arrangements with contractor for train fill prices when pits were down to lower level than grade. If they got steam shovels and cars and made these fills before track was laid, if I could not allow them train fill prices. After discussing the matter with the contractor these were submitted to the chief engineer an agreement was entered into and there was a letter from the contractor agreeing to put on steam shovels. There was a steam shovel to be placed at that place with small cars. I would not allow train fill until I was certain whole fill could be made. In the first or second estimate I took away all classification at that point. I would not return it as train fill until I was certain fill would be completed in time. If it was completed in time it was immaterial to me.

Q. While the work was in progress at that fill made by teams it was made part as loose rock and part as common excavation?—A. Yes, sir, if fill was completed in time it was to be returned as train fill.

Q. The date you observed it on the ground did you classify it?—A. The 22nd October.

Q. Did you satisfy yourself on that date on the ground if classification was right or wrong?—A. I did not take it into consideration at all. I only found out classification afterwards. I did not look into classification on that date.

Q. Did it occur to you that it was an extraordinary thing to pay contractor extra because he put in a suitable plant to handle a big fill of common excavation?—A. The matter was submitted to Ottawa before the agreement was made.

By Mr. Schreiber:

Q. Do I understand you that you spoke of getting instructions from Ottawa? Do you refer to the commissioners?—A. I refer to the commissioners and the chief engineer. The whole thing was submitted to them, and I explained at that time that it was more than likely that these fills would not be ready, and there were more fills than could be made by the contractor in two or three years.

Q. Did you get authority in writing?—A. Yes.

Q. Did you authorize, or were you aware that the roads leading into these various borrow pits were paid for?—A. No, sir. I am under the impression it was not returned. I do not know for certain.

(EXHIBIT No. 3A.)

APPENDIX No. 3

EXHIBIT No. 3A—*Con.*

Q. Why do you allow overhaul from rock cuttings at 1½ times the yardage measured in excavation?—A. I do not allow it. The thing was in existence on one or two divisions only when I came here, and I only heard of it last summer; and my instructions were that it was to be returned at 1 yard per 1.

Q. What measures did you take to have back estimates corrected in that direction?—A. In one case I remembered seeing that there was considerable overhaul to be returned yet. It has not been finally adjusted yet, because too much had been returned. The division engineers claim that the thing had been sanctioned and instructions given by my predecessor, and a good many of the subs. had been paid on that work, and they did not see how it could be adjusted.

By Mr. Kelliher:

Q. Has it been corrected in estimate to date?—A. Not all.

Q. Any?—A. Some.

Q. About what percentage of the total?—A. I cannot say.

Q. Has it been deducted on section immediately west of the Winnipeg river?—A. I do not think so; that is the division to which I am referring.

Q. When is it to be deducted?—A. I intended to take that point up again with the chief engineer.

Q. Do you consider there is any question about it?—A. There may be the question of deducting it from the contractor according to the contract. It may be necessary to submit the matter to the chief engineer and commissioners, because the engineers claim they got instructions from my predecessor.

By Mr. Schreiber:

Q. Did you receive instructions or advice from any one at any time to vary from the classification defined in the specifications?—A. No, never.

Q. Were instructions given by you to allow culverts which had been built of any stone not in accordance with the specifications to be classified as third-class masonry on the joints being cemented outside?—A. No.

Q. Are you aware that such has been done?—A. It has been claimed that such has been done. It is a case of veracity between my engineers and those who reported the matter. It was reported to me that the culverts were third-class, and I have taken the word of my own engineers.

Q. Did you take any steps to establish which was right?—A. I went to one culvert and found it was as good as others that had been built.

Q. Did you take any of it down?—A. No, sir. It was a small culvert, and I thought there was a good deal of ill-feeling between the two engineers in the question.

Q. Having been over the work recently, are you aware that many of these dry culverts are not built according to specifications, especially as to jointing and facing stone?—A. I am aware there are a few culverts on the east end not up to the standard of stone culvert. We have had a masonry inspector all the time, and certainly in some cases he must have allowed bad work; I can't explain how it was.

Q. Are you surprised that your engineers allowed it to pass?—A. In some cases I am. I can only attribute it to the lack of knowledge and experience on the part of some of the resident engineers.

Q. Are you surprised that your division engineers allowed this to pass?—A. I think that in some cases they should not have been allowed to pass. They should have been rebuilt or repaired. The only explanation I can give is that these stone culverts were built in a hurry and were covered over before the division engineer had a chance to see the whole of them. That would not excuse workmanship on them.

EXHIBIT No. 3A—*Con.*

Q. Do you think building them in winter would diminish the size of the stone?—A. No.

Q. Do you think it would prevent stone being laid with proper bond?—A. No.

Q. Do you think it possible these culverts could have been built without the division engineer seeing them?—A. Some of them may have been built without his seeing the whole of them.

Q. Were not many of these culverts under heavy rock embankments built far in advance of the dump?—A. They could not have been built so far in advance of the dump as the whole of that eastern work was carried through in four or five months.

Q. Did you order rip rap to be placed on top of culverts?—A. Yes, I ordered it at one place on Johnson & Anderson's work in order to save the culvert.

Q. Have you any corespondence you would like to put in?—A. There is nothing. All correspondence can be had at any time.

By Mr. Kelliher:

Q. Which grade of engineers do you consider responsible for the classification?—A. I told them both, the division and resident. The resident engineer makes the classification and the division engineer should see that it is correct.

Q. Do you expect your division engineers to go over a cut once a month and examine the classification turned in by the resident engineer?—A. Yes, I think they should.

Q. Do you expect them to be familiar with every part of the classification?—A. Yes, I expect them to give me information.

DISTRICT 'B.'

Mr. B. BOURGEOIS, Division Engineer, Division 7, District "B,' called and sworn at LaTuque on the 18th day of June, 1909.

By Mr. Schreiber:

Q. What position do you hold?—A. Division engineer.

Q. How long have you been practising as an engineer?—A. Thirty-four years.

Q. Do you go over your division frequently enough to keep familiar with each cutting so as to decide any time solid, loose rock and common excavation?—A. Yes.

Q. Do you every month go over each cutting with resident engineers and tell them percentages to return in estimates?—A. Yes, I generally went over one or two a week.

Q. Would you explain how you instructed them, and what steps you took to see that he estimated the percentage of loose rock, solid rock and common rock according to instructions?—A. Classification was made according to specifications.

Q. How do you instruct them?—A. I go over every week with the resident engineer and examine the material and decide what percentage to give.

Q. Do you take notice yourself of the percentage in each cut and check estimates monthly by those notes?—A. I generally do.

Q. Do estimates come in each month showing classification of each cut?—A. Yes.

Q. In cuttings containing ledge rock, boulders, clay and sand, how do you classify?—A. What is in ledge or mass which necessitates it to be removed by blasting, that is solid rock.

Q. How do you return ledge rock in cut?—A. Shown under cross sections.

(EXHIBIT No. 3A.)

APPENDIX No. 3

EXHIBIT No. 3A—*Con.*

Q. It is always shown on your cross-sections?—A. Yes.

Q. Have you got those cross-sections?—A. No, my resident engineer.

Q. It is only the cross-sections he has that have been produced?—A. Yes.

Q. There are no other means of showing except on cross-sections the engineer has plotted now?—A. Yes.

Q. The cross-sections which your resident engineer has shown the line of demarcation between the solid rock in ledge and other material, is there a line on the cross-section shown; have you any other means of calculating ledge rock other than what you find on cross section?—A. It is calculated from notes, the lines of demarcation showing the ledge rock is taken by levels.

Q. It is shown on cross-sections?—A. Yes.

Q. How do you determine the yardage of boulders in cuts that can be classified as solid rock?—A. When they are cemented together, if they necessitate considerable blasting.

Q. Have you read the specifications?—A. Yes.

Q. How do you determine the exact yardage of boulders?—A. By measurement.

Q. Have you given your resident engineers instructions to measure each boulder measuring one yard and over?—A. They were measured when it could be done.

Q. Would you mention under what circumstances it could be done?—A. When it is a cut of sand or other material where it can be measured it is measured; where it is mixed material it cannot be measured, a lot of boulders together.

Q. Please explain why? When large rock cannot be measured?—A. When there are boulders cemented together necessitating considerable blasting.

Q. Do I understand you that you have measurements of all boulders of one cubic yard of over?—A. I have not got all documents of resident engineers.

Q. Do you know if these boulders were measured?—A. As far as I can say, yes.

Q. Will you describe now your assembled rock which is classified as solid rock?—A. Solid rock in ledge or mass cemented together necessitating considerable blasting.

Q. Would you consider a mass of rock assembled as spoken of with sand in between?—A. No, not unless they were boulders over a yard.

Q. Can you name any cut in which these boulders occur?—A. Yes, a great number of them, nearly all the cuttings.

Q. Would you consider a mass of boulders massed together, if, when they are struck with a pick or anything would roll down bank; would you consider they were cemented together?—A. No, unless they were shaken by blasting.

Q. Did you or your staff in any one case under your instructions classify solid rock by percentage?—A. Well every cut is classified by percentage, that is where there is solid, loose rock, or common excavation.

Q. Do you consider that it is measuring rock according to the specifications? A. Yes.

Q. I am talking about boulders of rock, have your engineers under your instructions been classifying that by percentage?—A. When there are boulders in cut over one yard they are classified as solid rock.

Q. Have you ever given any instruction to classify by percentage?—A. Certainly I have given those instructions.

Q. Do you consider that measuring?—A. Yes, that is measuring.

Q. Have you ever instructed not to classify according to specifications?—A. No, I have not.

Q. Did you not up to a certain period have the large boulders measuring one

EXHIBIT No. 3A—*Con.*

yard and over measured, and afterwards gave instructions not to measure them but take the percentage?—A. We had to take it by percentage.

Q. Did you consider that according to specifications?—A. Yes.

Q. If that is measurement why not look at a cutting and say there are 50,000 yards in that cut; why take any levels over it. Do you consider that measuring?—A. No, I do not quite understand the question.

Q. In looking at a cut, could you say, well there is 20 per cent of common excavation, there is 50 per cent of loose rock and 30 per cent of solid rock. Is that measuring?—A. Yes.

Q. Is that measuring?—A. Yes.

Q. Is that the way you do?—A. We have done so in a few places.

Q. Have you done so in many cases?—A. Yes, probably.

Q. In a great many cases?—A. I do not remember from the first year what we have done.

Q. Do I understand you in a great many cases?—A. Yes, in a great many cases.

Q. Are you not aware that there are general instructions issued by the chief engineer that cross sections shall be plotted showing exact location of all ledge rock?—A. Yes.

By Mr. Kelliher:

Q. Do I understand you to say that you have cross sections showing exactly the different classified materials?—A. They are sent to Quebec.

Q. Did you ever classify on other works as you are doing here?—A. I do not remember classifying, we did not have to classify it, it was made by the company at so much a mile.

Q. What roads?—A. Quebec and Lake St. John and Great Northern Railways.

Q. Was there any necessity of classifying?—A. No.

By Mr. Lumsden:

Did you not get instructions that all rock had to be shown on cross sections or by boulder measurement?—A. Yes, on cross sections.

Q. Or by boulder measurement where they could not be shown on cross sections?—A. We had instructions to show boulder measurement.

Q. Ledge or boulder measurements were to be shown in books kept by men who measured them?—A. Yes, I think we had a circular to that effect. Where it could be done. Where we had a mass of boulders it could not be done. We would have to have a man on every cut.

By Mr. Schreiber:

Q. I am correct in my understanding that you had no experience in classification before you came here?—A. Not properly speaking, I had a little on the C.P.R.

By Mr. Kelliher:

Q. This is the first work on which you classified material where contractor was paid on classified material?—A. Yes.

Q. Did any one instruct you?—A. I had some advice from the district engineer.

Q. Did he instruct you?—A. No, I asked for some information.

Q. Do you remember the information?—A. I asked him about classification what he would make it, he never told me to classify so and so.

Q. So that you are really without any instructions or have no experience and

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EXHIBIT No. 3A—*Con.*

you are now classifying work on your division and the estimates are being paid on that classification?—A. Yes.

By Mr. Lumsden:

Q. Has the assistant district engineer or district engineer ever gone over the work with you?—A. Yes, Mr. Grant, Mr. Huestis and Mr. Harvey.

Q. Mr. Grant was the first man, did you submit classification to him for his approval?—A. I asked him for some advice and we talked the classification over; in several cases I asked if he thought the classification was over.

Q. What did he say?—A. In some cases I was right, and in some cases I was over classified.

Q. You conformed to his ideas,—A. Not always.

Q. When he said it was too high, did you cut it down?—A. In some cases.

Mr. LENNOX.—What are the references there?

Mr. WILSON.—Let us see what is attached to that document.

Mr. LENNOX.—I suppose he had better read the whole document that he produces. That (Exhibit No. 3) is the mere introduction to it.

By the Chairman:

Q. You have read so far just the introduction to it?—A. Yes, that is all.

Q. Showing the list of names; and you allude to the annexed document?—A. Yes.

Q. What do you mean by the annexed document which you have not read, and which you say is attached to it? What is that document?—A. It is the evidence that was given on the inquiry. (See Exhibit No. 3*a*, page 93.)

Q. It is the evidence which was given to the Board of Arbitrators?—A. To the arbitrators.

Q. Of which you are a member yourself?—A. Yes.

Q. Is it the whole of the evidence, or only a part of it?—A. It is the whole evidence, as far as I know.

Q. As far as you know? Who was it made that copy—that part of evidence? Who has chosen it out of the whole evidence? Have you done it yourself?—A. No.

Q. Who has done it for you? You say it is a part of the evidence?—A. No, so far as I know it is the whole of the evidence that is in.

Q. The whole of the evidence?—A. As far as I know.

Q. Who knows about it?—A. Well, I suppose——

Q. Who has prepared it for you?—A. That was written by the stenographer who took the evidence.

Q. You asked the stenographer who took the evidence before the arbitrators to prepare that statement for you?—A. No. I have had that statement ever since the time of the arbitration, after I had given up the position of arbitrator.

By Mr. Lennox:

Q. You say, Mr. Lumsden, that the statements that were made in your presence appear on the annexed papers?—A. Yes.

Q. In reference to those engineers?—A. Yes.

Q. And you indicate the pages upon which each of these statements appear in this annexed document?—A. It gives the pages, from page to page.

Q. And upon those statements, as well as upon your personal examination, you relied in writing the letters that have been referred to, of the 25th June?—A. Yes.

By Mr. Macdonald:

Q. You have not picked out the evidence and assigned it to each of those engineers upon whom you reflect, but you have just taken the whole?—A. I have given the whole evidence.

Q. Relating to everybody?—A. Yes, relating to everybody, as far as I know. There is evidence there of one man who was not on the commission; I have not mentioned that in my memorandum attached.

By Mr. Lennox:

Q. You say the statements that were made in your presence by that engineer appear on certain pages of the annexed document?—A. Yes.

By the Chairman:

Q. Mr. Lumsden, yesterday when we adjourned you were making or reading a statement; have you got through with that statement, or have you any further statement to make?—A. I handed that statement in that I had yesterday.

Q. Yesterday when you were giving your evidence you said that you were making a statement; you were asked to make a statement, and you read a statement to the committee. I understand that you were not quite through when we adjourned; have you any other or further statement to make?—A. No.

Q. That is all the statement that you wish to make to the committee?—A. I may say that that statement that I gave in of all the stations and the classification, that those are only some places. I have got a great many more that I could put in, but I picked out the most prominent ones.

Mr. CROTHERS.—It seems to me, Mr. Chairman, that the circumstance that I had in my mind yesterday, when speaking of the importance of having counsel from the beginning, arises now. It should not be left to the witness to say whether he has put in everything that he considers material. Counsel ought to be consulted as to that. He may have something else that is material. You can understand that, as a lawyer.

The CHAIRMAN.—Yes. I have no objection, certainly. My personal impression is that we should have a counsel to act for Mr. Lumsden or any other party, as far as I am concerned.

By Mr. Macdonald:

Q. Mr. Lumsden, this is what we understand you to say, that that is the preliminary statement of your position?—A. Yes.

Q. That is what I, as a member of the committee, desired to find out, or to have some idea of what your position was before the committee; and this we understand you have given us in these documents of yesterday and to-day?—A. Yes.

Q. The names of the engineers which you have not given specifically here I suppose can be readily ascertained from the commission by reference to the location?—A. Oh, yes. The difficulty with me is that many of the engineers whom I saw on the ground there were not the men who made the classifications. If I attempted to make the list I would probably make it wrong.

Q. I suppose the commission can identify the engineers at those different stations?—A. Yes.

Q. Their records would show that?—A. Yes.

Mr. MACDONALD.—The issue, Mr. Chairman, is pretty well defined now. Mr. Lumsden has given a list of certain stations where he said there was wrong classification, and he has given us the names of the engineers who, he says, wrongly classified. Now, the issue is between Mr. Lumsden and those gentlemen, and it seems to me we ought to notify those gentlemen, whose names have been mentioned here that they are reflected upon, and on a day convenient to the committee when they can come here, to proceed to hear the issue between them.

The CHAIRMAN.—You make that as a motion?

Mr. LUMSDEN.

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Mr. MACDONALD.—I am merely suggesting it; then we can take up the question of counsel.

Mr. LENNOX.—Excuse me, Mr. Macdonald, I think the drift of what you were saying just now, and of what you said yesterday, was that when Mr. Lumsden makes a statement, and you have the names and the means of identifying them, you would notify these parties so that they could come here and protect themselves. Is that the gist of the matter?

Mr. MACDONALD.—Yes, that is the gist of what I said.

The CHAIRMAN.—Then the clerk will please take a memorandum of the persons whose names have been mentioned.

Mr. MACDONALD.—I only suggest that.

Mr. CLARKE.—We would want a further statement from the commission as to the engineers covering the stations which are not covered by this memorandum read by Mr. Lumsden, so that all may be notified.

Mr. LENNOX.—Following up that idea, I was going to move in the House, that is, to put the question on the Order Paper, to ascertain the names of the engineers that could be ascertained by having all those stations that we know now. The commission could probably furnish those names to the committee.

Mr. MACDONALD.—Mr. Parent, you could give us the names of those engineers attached to those stations, could you not?

Mr. PARENT.—I think, Mr. Chairman, it is unfair to ask us to do that. Mr. Lumsden is the man who says he wrote those letters. He says that there were certain men that he had no confidence in. He says in his letter that there were certain men on his staff. We want to know it.

Mr. CROTHERS.—Some engineers that sent in those estimates that he read yesterday.

Mr. PARENT.—You have all the estimates yourself.

Mr. LENNOX.—We are going to find them out from the commission, I think.

Mr. BARKER.—I think we should proceed somewhat regularly, and everybody here except the members of the committee is subject to the orders of this committee; and if we require the commission to produce certain documents here I think we must insist on our orders being carried out, no matter what the commissioner might think.

Mr. MACDONALD.—Mr. Parent was perfectly within——

Mr. PARENT.—I don't object to that. I object to giving the names of engineers when I don't know who they are.

Mr. MACDONALD.—There need be no misunderstanding about it. Here are certain stations in certain districts, in B and F. There were certain engineers employed at classification at those stations at certain times. The records of the commission I think will show, would they not, Mr. Smith?

Mr. SMITH.—I think so.

Mr. CLARKE.—I suppose the certificates on file will show.

By Mr. Wilson:

Q. Mr. Lumsden, those engineers of whom you have given the names to the committee this morning are on the two districts?—A. Yes.

Q. The east and the west one near Winnipeg—B and F?—A. Yes. There is only one on B. The rest are on F.

Q. Can you point out those who are on District B and those who are on District F?—A. Mr. Bourgeois, I think, is the only one on District B.

Q. The only one?—A. The only one that is mentioned in that.

Q. Do you know whether there is more than one engineer?—A. There are numbers in other portions of the districts whose names I am not positive of.

By Mr. Wilson:

Q. The names you are not positive of?—A. No.

Q. But have you got to complain of any other than Bourgeois?—A. Oh, yes.

Q. The same thing with the other district—District F?—A. The same thing with District F. They are the names of those who did the work in connection with the stations as given in my list that I gave yesterday.

Q. Now, referring to this document attached to the one you have read this morning, I see that those depositions given before the arbitrators are not certified?—A. No.

Q. Is that the whole of the evidence, or part of the evidence?—A. As far as I know I believe it is the whole.

Q. You believe it is the whole?—A. Yes.

Q. From whom did you get that?—A. I got it—I had it at the time——

Q. You got it in the same shape as you have it now?—A. I got it in the same shape as I have it now.

Mr. LENNOX.—Is there anything before the Board?

Mr. MACDONALD.—We might perhaps settle that question, Mr. Lumsden confesses his inability to tell the committee—he says he does not know—those engineers he is talking about who made the classification; but he has given us the stations where certain classifications were made. The records of the commission would show who it was that certified to the commission. In order to enable the committee to go on and ascertain where we are—it does not mean any reflection on anybody—I think, Mr. Smith, that the commission ought to hand to the clerk the list of names of engineers who made certificates of classification in those districts in which the names are not given.

Mr. SMITH.—Mr. Chairman, if you will allow me, I am very much impressed with what the honourable gentleman, Mr. Barker, has said—that we ought to proceed regularly. Now, I may say that my instructions were to make a full and careful examination of this matter; to conceal nothing; to investigate fully upon the reference made by parliament. I very respectfully draw your attention to the fact that if this investigation is not proceeded with upon some system there will be absolutely no end to it. Far be it from me to criticise for one moment the action of the committee; but there are several members of my own profession upon the committee——

Mr. WILSON.—We are all.

Mr. SMITH.—So much the better; then I trust I can make this remark with perfect confidence: you have just now allowed to be filed in this case the whole of the evidence taken before another tribunal——

Mr. MACDONALD.—No.

Mr. WILSON.—We are coming to that; we will deal with that in a minute.

Mr. SMITH.—I am not going to raise any objection if the members of this committee, who are lawyers, see fit to adopt such a principle, because I suppose if I do object my conduct may be criticised, and it may be said that I have something to conceal.

Mr. WILSON.—If you will allow me, I have a suggestion to make that will settle the point for the moment. Perhaps we can agree——

Mr. SMITH.—Allow me a moment. If we are going to have any adjournment now, whether the commission can possibly tell from this statement is a question. Mr. Lumsden has already told us that engineers have been changed from those various sections. He says: 'Sometimes when I went there I did not see the man who made the classification.' Now, I don't know whether it would be possible from the records of the commission to tell just the date when the classification was made to which objection is taken. Mr. Lumsden says: 'Some of that work was not only completed, but the classification made more than a year before I was there.'

Mr. CLARKE.—He thinks there may have been different engineers.

Mr. SMITH.—There may be different engineers, and whether it is possible from the records of the commission to say who made those classifications I do not know.

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Mr. BARKER.—Mr. Lumsden can tell whether it is possible or not.

Mr. SMITH.—The commission can tell me that, but I assure you that will be investigated; and, if possible, the information will be brought to you.

Mr. LENNOX.—If the commission find it impossible, they have only to say so.

Mr. SMITH.—Quite so. Now, before we proceed any further, is it possible to learn in some way, or to indicate or define in some way, what the scope of the inquiry is going to be? If we are going to have this investigation made now to find out what we can determine from this statement, Mr. Lumsden now says he has a great deal more that he has not put before you. I would respectfully suggest that you ask Mr. Lumsden now to put before you all that he intends to, or all that this committee ought to know, so that we may investigate and find out at once.

Mr. LENNOX.—Is not this the case, that it is not so much a question of what Mr. Lennox intends or what Mr. Lumsden wishes, as of what should go? Should not everything go before the committee?

Mr. SMITH.—Undoubtedly, everything on which he bases his charges should go before the committee. Therefore, I would suggest that he make a full statement at once; if he has any further matter that ought to go before this committee, it ought to be brought.

Mr. LENNOX.—That brings us up to the question of counsel. That just emphasizes the necessity of counsel. Mr. Lumsden may have one view of the matter and an experienced counsel may have an entirely different view. Now, as I submit to you, Mr. Chairman, there should be counsel employed in the public interest, and that counsel should have the right to look into this matter, have time to look into it, and to determine what, in his view, is proper to be brought before the committee. Mr. Lumsden could not be expected to be a judge of that kind of thing to the same extent as counsel would be; and I only renew what I said yesterday—that both sides should be represented. There should be no doubt about that. The public should not have any feeling that injustice was done by this committee. I think the committee is surely in a position to determine now, and it should be determined now before anything more is done, that counsel will be appointed to represent the other side of the question—which I regard as being the public interest side of the question. It was said, leave this over till to-day, till we had seen what line it would take. Now, I think we are at that point.

Mr. WILSON.—Mr. Chairman, I do not agree with the remarks of Mr. Lennox. I do not want to reflect in any way on Mr. Lumsden. He has his views; his views may not be accepted by this committee. Now, Mr. Lennox wants the views of a lawyer. The lawyer will have nothing to do with his own personal views. We have to deal with a very definite matter referred to us by parliament. I am supposing a lawyer would be engaged in the public interest; is it Mr. Lennox who is going to give him instructions? Is it Mr. Chairman, or any one of the committee, or is it the public out on the street—any rumour? This is no Royal Commission, as the one that has been sitting in Montreal for a year or so, where everybody could come and lay a complaint every hour in the day and every minute in the hour. The business of this committee is being framed as it was expressed in parliament by some members who are, I suppose, well informed, and the proposition before the House was framed and crystallized. We cannot go outside of those views. If any one now being charged, being denounced before this committee, wants to be defended, let him have counsel; I have no objection at all. I should like Mr. Lennox to be good enough to tell me from whom this public lawyer, whose services he requires before this committee, will receive his instruction or his information?

Mr. CROTHERS.—Mr. Chairman, I think it is as well that we should thoroughly understand where we are, right away now. I do not wish to say the slightest word that would reflect upon my learned friend from Montreal (Mr. Smith, K.C.), but from the remarks he just made, he seemed to assume that he has the carriage of this investigation. Now, so far as I am concerned, I think that is an entirely erroneous position to

take. Here is the position we are in: Mr. Lumsden was appointed chief engineer of this project, not by the commissioners, but by the government—appointed by the people of this country—to oversee, in his professional capacity, the construction of this railroad. On the other hand, the commissioners were appointed by the same power—by the people through the government. So that we have Mr. Lumsden appointed by the people of this country to discharge certain duties; we have the commissioners appointed by the people of this country to discharge certain duties; and we will remember that it is the government that appoints Mr. Lumsden, not the commissioners. Under section 10 of the Act the government appoints the chief engineer. Under section 11 the commissioners appoint all the other engineers and all the other officers. So that now we have the chief expert in connection with the project, Mr. Lumsden, appointed by the people, casting certain reflections upon officers appointed by the commission. He has his subordinate engineers——

Mr. MACDONALD.—All of whom were recommended by himself.

Mr. CROTHERS.—I don't understand so. The statute does not require anything of that kind; the statute does not require that the chief engineer should approve of those. It gives the commissioners absolute power to appoint any engineers they choose, under section 11. (Reading secs. 10 and 11). So that, as I said a moment ago, we have the people appointing the chief engineer; the people appointing the commissioners; the commissioners appointing these subordinate engineers and all other officers. Then we have the chief engineer making a report in this letter to the government, to the people, reflecting upon certain officers appointed by the commission. That is the position of things. The people, through the government, say: 'We desire those reflections investigated.' The government, not the commissioners, appoint the committee to investigate. The commissioners are of no standing whatever here, so far as the order of the House appointing the committee is concerned. They are here by grace of this committee. Their counsel is here by grace of this committee. It is the duty of this tribunal to determine the status of the various counsel who appear here. Now, I have not had the honour of meeting my learned friend (Mr. Smith) before, but I am ready to assume at once that he possesses to the fullest extent the characteristic virtue of our noble profession (hear, hear), and that characteristic virtue is to use all legitimate means to give effect to the desire of his client. In practice, amongst those legitimate means—which perhaps would not be approved of in forum conscientia—is the suppressing of any evidence that would tend not to give effect to the desire of his client. That is the position that my learned friend would occupy as representing this commission. Now, the commissioners appointed these subordinates; and it is as natural as for water to run down hill that they should endeavour to show, through their counsel, that the subordinates they appointed were both competent and honest; and it would be the duty of my learned friend, as counsel for the commissioners, to give effect to that desire even to the extent of suppressing evidence. We are all lawyers on this tribunal; we know that that is done every day—perfectly legitimate.

Mr. CLARKE.—We don't know any such thing.

Mr. CROTHERS.—Yes, we do; my learned friend would not be considered a good counsel——

Mr. BARKER.—My learned friend always hands his brief to the other side.

Mr. CROTHERS.—My learned friend, the chairman, would not be considered a good counsel if he brought before any tribunal evidence which his clients did not desire him to bring before the tribunal. We all understand that very well. We know what the feeling of the commissioners is towards Mr. Lumsden, and towards the other members of that board. We had a letter from those commissioners, sent to Mr. Lumsden, in which they say, amongst other things—I need not read the whole of it—that the secretary was instructed to make this communication to Mr. Lumsden and to say that the commissioners 'object to and protest against the proceedings of the arbitrators, as being improper and illegal'—charging these arbitrators, charging Mr. Lumsden,

with doing something that was 'improper and illegal' for the following reasons:—(a) that they were based in whole or in part on the said draft agreement of May 14, 1909, which had been rejected, and which had no existence in fact; (b) that the examination of the work was of a hasty, insufficient and superficial character;—charging this witness, Mr. Lumsden, one of the arbitrators, with having made a hasty, insufficient and superficial examination of this work. (c) That the engineers on the line who classified the work were not afforded a sufficient hearing and an opportunity of presenting evidence; (d) that the contractors were not afforded an opportunity of showing cause—they did not treat the contractors fairly; they did not treat the subordinate engineers fairly; 'and further to say that the commissioners insist, in the public interest, that the proceedings of the arbitration tribunal shall be exhaustive, final and conclusive;' and 'that the report of the arbitrators, when made, shall be supported by substantial evidence, including details of quantities, &c.' That is the letter sent by these commissioners to Mr. Lumsden, indicating the feelings of the commissioners towards Mr. Lumsden. Now, as I said, it is as natural as it is for water to run down hill, that these commissioners desire the result of this inquiry to warrant that letter. And it is just as natural that their ocunsel should endeavour to carry that out, even to the extent of suppressing evidence if necessary. So that I appeal to the members of the profession who are together on this tribunal, whether or not it is in the interests of the public that the carriage of this investigation should be placed in the hands of a man occupying the position that my learned friend from Montreal does, who is acting for these commissioners, anxious to carry out their desires, which is, to show that Mr. Lumsden was wrong, to the extent even of suppressing evidence. I am perfectly sure that my learned friend from Montreal sees the indelicacy of his position, and would not desire to occupy it. Therefore I submit to you with all confidence, Mr. Chairman, that the gentleman appointed by the people of this country having made reflections on officers appointed by the commission, and hence indirectly against the commissioners, they should not be permitted to choose counsel to have the carriage of this investigation. The only capacity in which the commissioners can appear before this tribunal is that of defendants; and who ever heard of a prosecution being placed in the hands of the counsel for the defendant.

Mr. WILSON.—There is no defendant so far.

MR. CROTHERS.—That is exactly the position, I submit to you, Mr. Chairman; exactly the position. The counsel for these commissioners must desire to carry out their desire. Their desire must be to show that Mr. Lumsden is wrong. The counsel's duty—legitimate duty—would be to suppress evidence that would go to show that the commissioners were wrong; and therefore I appeal to every member of this board, every lawyer on this board, if that is a proper position for counsel to be in. Should not somebody appointed by this tribunal to represent the people have the carriage of this investigation? It seems to me that that is just as clear as that two and two make four; and I submit it to the honour of members of our profession on this committee if that is not so.

Mr. SMITH, K.C.—May I be allowed to say a word, Mr. Chairman? I feel, sir, that we are here by grace, and we hope to get to heaven by grace—but I was very much surprised indeed to hear, immediately after the reference to grace, such an exalted view of the ethics of our profession.

MR. CROTHERS.—Aren't they correct?

Mr. SMITH.—I desire to say at once that, so far from feeling the slightest indelicacy in my position, my position is clear, absolutely clear and straight and honourable, and I intend so to pursue it; and if the learned counsel who has just addressed you and has criticised my position, declared to you, as he did this moment, that I, retained in the public interest—representing the commission that practically represents the government—would consider it my legitimate duty to suppress evidence, I have only to say that I am not acquainted with any such ethics in the profession.

I shall suppress no evidence. Now, my position is not indelicate, for the simple reason——

Mr. CROTHERS.—Would my learned friend pardon me for one moment? Who has given you the position that you are assuming to take now in this tribunal? What is your status here at all?

Mr. SMITH.—I beg the honourable gentleman's pardon. At the very first meeting here it was proposed that counsel should be heard, and any one interested was invited to come with counsel.

Mr. CROTHERS.—Yes, but it was not proposed that any particular counsel should have the carriage of these proceedings.

Mr. SMITH.—No particular counsel has for one moment assumed anything of the sort.

Mr. CROTHERS.—I assumed it by your language.

Mr. SMITH.—Then you must have put a very strained construction on the language. I never said anything of the sort.

Mr. CROTHERS.—What you said here was that you were representing the government.

Mr. SMITH.—I said that I was retained by the commission, and my instructions from the commission were to make this investigation, as far as their responsibility for engineers or anything was concerned, as full as possible.

Mr. LENNOX.—We have not had that from anybody before.

Mr. SMITH.—Now, what is the charge? The chief engineer has made certain charges.

Mr. CROTHERS.—Would my learned friend answer one question: Do you think your position here is to have the carriage of this investigation?

Mr. SMITH.—Certainly not; but it is this——

Mr. CROTHERS.—Then we ought to have somebody else.

Mr. SMITH.—It is to investigate as far as possible charges made by Mr. Lumsden against engineers under him. Now, when I come here with instructions from the commission to ascertain whether those charges are well founded, whether any reason exists why Mr. Lumsden has lost confidence in the engineering staff, I am surely not then to be met by any insinuations that my position is indelicate. My position is thoroughly well defined; and with the permission—grace, if you will, sir—I intend——

Mr. CROTHERS.—Will you pardon me one moment? I don't mean to say it is indelicate at all if your position is to represent the commissioners and not to have the carriage of the investigation.

Mr. SMITH.—I have never suggested anything of the sort.

Mr. CROTHERS.—Then there is nothing between us.

Mr. SMITH.—I think there is a great deal between us, if my honourable friend will allow me. I was perfectly staggered when I was told that my duty was to suppress evidence. I put it to the other gentlemen, to the other members of this committee, whether such a charge should be made when I come here to investigate the reasons why Mr. Lumsden declared, in a solemn document, that he had lost confidence in the engineering staff. Mr. Lumsden first said 'I don't remember any of the names.' One would think that the charge that he had lost confidence in the engineering staff would have been based upon something more definite, that had made a very definite impression on his mind. Then when we find that the classification that he objects to is, as he tells us, made by men who are no longer engineers at all on the Transcontinental——

Mr. BARKER.—If Mr. Smith would allow me, I just wish to say a word here—not trying to shut him off in his remarks in the least—but I quite agree with what my learned friend Mr. Crothers has said. We are taking exception, not to your representing your client to the fullest extent——

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Mr. CROTHERS.—No, of course not.

Mr. LENNOX.—We want to confine it to that.

Mr. BARKER.—But we say that that is not sufficient for the purpose of this investigation. You, perhaps somewhat unwittingly, represented yourself as being employed here by the commission to represent the public interest. We deny that. We say you are not representing the public interest here.

Mr. SMITH.—With what Mr. Barker has said I entirely agree. I said at once it would be entirely agreeable to me to have another counsel appointed; I should be delighted. My remarks to-day were directed to what was said this morning. Surely Mr. Lumsden could not have been honest in his resignation because he lost confidence in engineers who were no longer on the line at all. What I am asking you gentlemen now to do is to let us know what we are going to investigate, so that we may bring before you all the information that it is possible to bring. Therefore I suggested a while ago that you should, if possible, get from Mr. Lumsden all that influenced him in losing confidence. Don't have a partial statement; get everything from him that influenced him in losing confidence. Then the commission will take up these statements, and if it be possible from their records to show who were the engineers who made those classifications, we shall put before you all the information that we have; and I will assure the honourable gentlemen once more that if there is any supression it won't be with my knowledge or consent.

Mr. CROTHERS.—Well, Mr. Chairman, isn't this the time to determine——

Mr. MACDONALD.—I was going to say that all this discussion was entirely out of place and unnecessary, for the simple reason that as far as I am concerned—and after consultation with Mr. Clarke I find he has the same view—we have always been of the opinion that there ought to be counsel here to deal with this matter, and we are prepared to make it to deal with this whole question.

Mr. CROTHERS.—Is it not necessary to have counsel now to determine what is material? Mr. Lumsden says he does not know.

Mr. MACDONALD.—We will get back to the point where Mr. Smith refers to an understanding that will clear the air; then we will be prepared to get down to business and to go ahead. The majority of the committee thought yesterday that as a preliminary matter it would be wise and prudent to hear from Mr. Lumsden what he meant by the very indefinite and crude statement contained in his letter to the commission. That is all we wanted to do. I intimated yesterday that so far as I was concerned I thought the whole question of counsel should be properly dealt with; that we should intimate that all parties could have counsel, and that we should have the best opportunity of ventilating these matters to the public. So far we have only got to the preliminary statement of Mr. Lumsden, when we were diverted into this other direction. I am prepared to deal here in the way that I think will be in the public interest. Before dealing with that, I think Mr. Lumsden's statement ought to be completed, so as to clear the decks and let us know where we are going to be. Mr. Lumsden has stated the places where there was over-classification. He has given us the names of the men who, he says, over-classified, and in whom he lost confidence. He says he thinks of some others that have over-classified, but he cannot give the names. I don't know who they are. Mr. Smith very properly points out that it is very difficult for the commission to supply those names. They may have gone away, and the statement is so indefinite that it is impossible to locate them. When we broke off into this discussion I was endeavouring to say that Mr. Lumsden might confer with Mr. Smith and the clerk, and prepare and file a definite list of the names of the parties on whom he has reflected.

Mr. LENNOX.—No, not at this stage.

Mr. WILSON.—When we are proposing an investigation do you object now?

Mr. MACDONALD.—Mr. Lumsden either has in his mind the men in whom he lost confidence, or he has not. Let him confer with Mr. Smith, and let them give to the

clerk the names of the people whom he meant. As to the statement in which he has given us all the evidence before the arbitration, I think that should not be put on the records of the committee except such parts of it as he selects that are appropriate.

Mr. LENNOX.—That is, such parts as he thinks will apply?

Mr. MACDONALD.—Yes, just give us the part that is material. Then we will get down to the point of trying to determine the statements that are made.

Mr. WILSON.—Mr. Crothers seems to have had in his mind that I object to have a counsel here, a public prosecutor, if I may call it that way. This is not my position at all. Honourable gentlemen seem to forget what are our duties, our jurisdiction, and the scope of this investigation. The first person that appears before us is Mr. Lumsden. We ask him whether he wants a counsel or not. He says no, he does not want any. I don't know of any tribunal having power to enforce a counsel on a party who does not want one. I don't think we have any power to appoint any.

Mr. LENNOX.—Yes, we have.

Mr. WILSON.—I would be delighted to be a little more informed on the subject. I think the committee may recommend to the government that a counsel should be appointed.

Mr. LENNOX.—That is all.

Mr. WILSON.—And I for one would be delighted if some proposition of that kind would be made. I don't know what is the proposition my learned friend is going to make, but we will in a few minutes bring as many counsel as you like—that is what I say to the public—and I would be delighted to see the room full of them; but when a counsel will make an application to appear before this committee we will have the right to demand whom he is representing. That is all I want—exactly as my learned friend Mr. Crothers was very particular, a few minutes ago, to find out who my learned friend Mr. Smith was representing. But I object that lawyers should come up before us and say, 'I am the public.' That is too much.

Mr. MACDONALD.—If we would deal with that preliminary point, as to how to get this question of names settled. Mr. Lumsden, suppose you confer with Mr. Smith?

Mr. LENNOX.—I was going to say something when you were speaking before.

Mr. SMITH.—Let Mr. Lumsden confer with Mr. Crothers and see if he can give it.

The CHAIRMAN.—No, that would not do.

Mr. LENNOX.—Mr. Lumsden has given us the names of those he came in contact with. He said in going over the work he found certain work that gave evidence of not having been properly classified. He had no faith in the men who classified the work, whoever they were. Now, the commission knows perfectly well, and has a record of, every engineer they have had. They have a record of all the classifications that came in. They have it assigned to certain stations, and they have it of record as to the time it came in, that is, the month it came in, and they know what engineer was in charge of that particular station at that particular time. They know who certified to it, and that is the man we are after. Now, I submit what the commission must do is to furnish us with that evidence as to who were the men who classified that particular portion of the work which is referred to in the statement. It could not be expected that Mr. Lumsden would know who those engineers were; and if we cannot get it through this committee we can get it through the House; we have those two ways. But I presume that we will get it from the commission, and I presume that they will not find any great difficulty. If an engineer who classified improperly a long time ago has gone away to South Africa and we cannot get him, so much the worse. But we need not meet that difficulty until it presents itself. I submit there is no need at all for any conference between the commissioners and Mr. Lumsden, or anything of that kind. Mr. Lumsden has done all that he could be expected to do. He has given the stations at which the wrong occurred, and the commission have the power to tell us who did the wrong.

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The CHAIRMAN.—I have no doubt that the commission will give us all the papers and everything that they can. I have not the least doubt about that.

Mr. LENNOX.—We will see that they do.

The CHAIRMAN.—I think this discussion is a little too long.

Mr. MACDONALD.—Let us try to get the decks clear as to the things in which we agree. It is agreed that only so much of that evidence taken before the arbitrators as refers to the engineers named by Mr. Lumsden is to be before the committee.

Mr. LENNOX.—The evidence of the engineers who were complained of should be referred to.

Mr. MACDONALD. The rest of it is to be eliminated, taken out, and will not form part of the record.

Mr. WILSON.—Would it not be better to have this certified by the stenographer?

Mr. MACDONALD.—We are proposing that of that evidence taken before the arbitrators, submitted by Mr. Lumsden, only so much of that as is specially referred to by himself in his statement as being the evidence of the engineers whom he names, shall be before the committee. The rest of it is not before the committee, and shall not form part of the record, and shall be handed back.

Mr. WILSON —Yes; but provided this is duly certified.

Mr. MACDONALD.—He is taking the responsibility. We are cutting out all the evidence except statements which Mr. Lumsden himself takes the responsibility of saying were made in his presence. All the rest are gone.

Mr. WILSON.—Without referring to documents which are annexed?

Mr. SMITH.—And on which he bases his loss of confidence?

Mr. MACDONALD.—And on which he bases his loss of confidence. Now, that is settled.

The CHAIRMAN.—This is given as a motion?

Mr. MACDONALD.—I move that.

The motion was put and carried.

Mr. MACDONALD.—Then I will move, Mr. Chairman, that the engineers whose names have been mentioned by Mr. Lumsden be notified by the clerk of the statements made by Mr. Lumsden in reference to themselves, and be asked to appear here at a subsequent date to be fixed by the committee.

Mr. LENNOX.—Do you mean that you want them to appear as witnesses, or are they merely to be notified so that they may appear or not?

Mr. MACDONALD.—That is it.

Mr. LENNOX.—They will be notified.

Mr. MACDONALD.—That is all.

The motion was put and carried.

Mr. WILSON.—I suppose you might put it that they may be represented by attorney if they like.

Mr. MACDONALD.—That can be dealt with afterwards.

Mr. LENNOX —That will come up at the proper time.

Mr. WILSON.—I submit that we should start. We have seven names.

Mr. MACDONALD.—I would suggest that we notify those people at once.

Mr. BARKER.—I think the commission should facilitate this inquiry, and give in as promptly as possible the names of the other men, and let them be notified at once.

Mr. WILSON.—Will you allow me to ask Mr. Lumsden a question?

By Mr. Wilson:

Q. Mr. Lumsden, supposing you were going to the commissioners' office to-day or any day, to-morrow we will say, could you find a list of the engineers who were employed on those two sections—the whole of them?—A. I presume I could. I can't say positively. I think so. I don't know the time that they were on.

Q. But you could find that out, I understand?—A. Well, they could find it out

much better than I could, because they are conversant with it at the present time, and I am not. They can find out who was the engineer from time to time all along when the work was being done, we will say, between stations 3010 and 3015, if there was any change, and probably it might have been all under one.

Q. But being the Engineer-in-Chief, I presume you were in charge of all that?—A. But I don't remember the individual stations where those men were.

Q. I am not asking if you remember or not, but what I want to know from you is whether you are not the best qualified man to make out that list, by going down to the office of the commissioners and looking at the record, even if you don't know the gentlemen who were working there?—A. They have got their own records there, and I have not. I have not seen anything of them of late. I can't tell whether John Brown was on or not.

By Mr. Clarke:

Q. I suppose when you were there you were the best qualified to give it?—A. When I was there; but I can't say that I am now. I am not.

By the Chairman:

Q. Mr. Lumsden, would you refuse the request of the committee to go up there to the office of the commission and look in the books and work it out, and get the names, and help the commission to furnish those names?—A. I am perfectly willing to do that, but I must rely on them in giving me the correct information.

The CHAIRMAN.—Why, yes, certainly it would be understood that they would produce the books.

Mr. PARENT.—We will put everything you want at your disposal.

The CHAIRMAN.—The books and help must be given to you so as to facilitate the work of finding the names, but I think you should go there and give your own help to the commission and get those names as soon as possible.

WITNESS.—I am prepared to do that.

By Mr. Macdonald:

Q. Is there any way, Mr. Lumsden, in which you can assist in that matter? For instance, here you have a cutting which was made two years ago. You, as engineer, certifying to the accounts coming from your subordinate, on which the payments are made, would be in the best position to locate that—better than any one of the commission would be, wouldn't you?—A. Than possibly the commissioners themselves, but not the engineers of the commissioners.

Q. I am speaking of the commissioners themselves?—A. The commissioners themselves, I dare say I am; but the engineers of the commission who have been on the work all the time on those particular districts or divisions, would know much better than I would.

Mr. MACDONALD.—Mr. Chairman, I stated a moment or two ago that I proposed to submit a resolution to the committee with reference to the appointment of counsel. I expressed the opinion, at the very inception of this matter, that it was not desirable for this committee or any other committee having duties such as ours to perform, to be a committee which would have to engage itself in the examination of witnesses and matters of that kind; and I thought that so far as possible all parties should be represented before the committee for the presentation of whatever they wanted to urge, pro and con. It was expected that Mr. Lumsden, on being notified, would come here with counsel. Some of my honourable friends and myself had experience in another committee of a somewhat similar character, in which the party who had made certain statements came here with counsel. There was no difficulty with regard to the matter, and everything went on perfectly regular. However, Mr. Lumsden says, 'I am not going to be a prosecutor in this matter at all; I am not going to bring counsel; I don't want counsel; I am here only as a witness.' He disclaims any responsibility

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of any character whatever; consequently the committee would be left in this position, with the assistance of Mr. Smith, representing the commission. But I am sure, on account of his high standing at the bar, and his position generally, we would all recognize that he would take a very high stand in regard to the matter, and would assist the committee in the fullest possible way. At the same time, personally I feel that the committee would be relieved of very much labour, and the thing would be very much more satisfactory, if we had somebody here who would assume the role of presenting the facts from the other side. Now, we cannot go to work and assign counsel for Mr. Lumsden, because Mr. Lumsden says he does not want counsel. I looked up some authorities on the subject, and I made some inquiries from gentlemen who, I think, are posted in regard to the matter, and who pointed out to me precedents that had existed in previous parliaments, where counsel had been assigned for the committee; and there is also a very grave question as to our right to proceed to appoint counsel to do that thing without the consent of the House. We can certify to the House and ask the House under a resolution to adopt our report, whereby the counsel that would be retained, for instance, by Mr. Lumsden or by the committee, would be paid. I was talking to the clerk in regard to the matter, as to what our position and rights are, and he thought the proper duty for the committee would be to report to the House, asking permission to have counsel assigned to the committee. I think that was done by the Langevin Committee, and Curran and other committees.

Mr. LENNOX.—It was done in the Langevin committee.

Mr. MACDONALD.—Yes. Consequently, as I am sure that all that anybody wants in this matter is to find out what Mr. Lumsden is talking about, and find out whether there was anybody that he had any right to lose confidence in, and we ought to have all the facts before us, I propose to move:—That this committee apply to the House for permission to arrange for counsel for the committee in investigating the matters referred to us for consideration. The phrase used in the resolutions is, 'Counsel for the Committee.' I cannot find anything more definite than that.

Mr. LENNOX.—One step at a time is good, I think. That is right, I think, as far as it goes.

Mr. MACDONALD.—Is there anything else you can suggest?

Mr. LENNOX.—I don't think there is anything else we should consider at this stage.

Mr. CROTHERS.—I am perfectly prepared to agree with everything Mr. Macdonald has said. I think he has covered the ground well.

The resolution was put and carried.

Mr. MACDONALD.—It is a good thing now everybody is satisfied.

The CHAIRMAN.—There are no other steps now until counsel is appointed.

Mr. LENNOX.—There is one other point——

Mr. MACDONALD.—I think we ought to arrange a time when those engineers mentioned by Mr. Lumsden can be here. Mr. Grant, I understand you are the Chief Engineer; when could those engineers be here?

Mr. GRANT.—About a week.

The CHAIRMAN.—Then they will be notified right off by the clerk.

Mr. LENNOX.—Just one point I want to have thoroughly understood. Referring to the evidence that is annexed to Mr. Lumsden's statement of this morning——

The CHAIRMAN.—Should we pay the expenses of those engineers?

Mr. LENNOX.—We are not calling them as witnesses at present. We are notifying them of the proceedings so that they can be present.

Mr. MACDONALD.—If they give evidence they will get their witness fees certified.

Mr. LENNOX.—Referring again to that matter of the statement by Mr. Lumsden this morning with the annexed evidence, and the portions that he specifically refers to by witnesses, that portion will be embodied in the record of the proceedings?

Mr. MACDONALD.—Yes, but all the rest will not.

Mr. LENNOX.—All the rest will not be.

Mr. WILSON.—Who is going to pick that out?

Mr. MACDONALD.—Mr. Lumsden and the clerk must eliminate.

Mr. LENNOX.—I think it is identified by pages. The pages only will be copied.

Committee adjourned at 12.30 until to-morrow at 2 p.m.

THURSDAY, February 24, 1910.

The committee met at 2 p.m., Mr. Geoffrion (chairman), presiding.

CHAIRMAN.—Now, gentlemen, we have met, I understand, to talk over the matter of counsel. We told Mr. Smith, K.C., and the commissioners that they need not be here; so if any of the members of the committee have any suggestions to make or anything to say in the matter we will be glad to hear them. Mr. Lennox?

Mr. LENNOX.—Mr. Chairman, my views are somewhat familiar to you all, and I do not need to repeat them. We are all here as in a quasi judicial capacity, but of course we are also politicians, and we cannot forget that—we do not often forget it for any great length of time.

Mr. MACDONALD.—Some of us do.

Mr. LENNOX.—I think Mr. Macdonald is the only gentleman who does.

Mr. MACDONALD.—So far.

Mr. LENNOX.—The rest of us I daresay keep it pretty well in mind. Now, in determining a committee the practice has been, I suppose at all times, that the government picks out a majority of their supporters, and the opposition name the minority. We cannot get rid of the fact that whilst we all desire to do what is right in the matter, we have the feeling that inevitably we are prejudiced more or less in favour of our own side. If some gentlemen suggest it, I will admit it is less in their case. It is to the interest of the government as it is to the interest of the commission that the result of this inquiry establishes that Mr. Lumsden is wrong, and that there is no ground for complaint in connection with the matters referred to.

Mr. MACDONALD.—That is not our position at all. We cannot assent to that at all.

Mr. LENNOX.—Well, I don't want anybody to assent to anything I say.

Mr. MACDONALD.—You have no right to say what our position is, because we have never said what our position is.

Mr. LENNOX.—Unless I am allowed to proceed I don't propose to proceed.

Mr. MACDONALD.—You have no right to make a reflection on the others.

Mr. LENNOX.—I have a perfect right to discuss this matter from the aspect from which I view it. I have as much right as Mr. Macdonald or anybody else.

Mr. MACDONALD.—That is right, but you have no right to say what my position is.

Mr. LENNOX.—I am not speaking about your position; I am speaking of the government. I will ask my honourable friend at this stage to leave me alone as much as possible while I am addressing the chair.

Mr. MACDONALD.—Well, you leave everybody else alone.

Mr. LENNOX.—I am not going to leave anybody alone in the public discharge of my duty, and addressing my remarks as I propose to make them.

Mr. MACDONALD.—Then you cannot complain if you are not left alone.

Mr. LENNOX.—I have a right to make a remark without unseemly interruptions on the part of my learned friend. Now, Mr. Chairman, what I say is this, that it is in the interest of the government as it is in the interest of the commission that the result of this inquiry should be that there would appear to have been nothing wrong at all; that there had been no over-classification; that there had been no un-

due amount of over-break; that there had been no disregard of Mr. Lumsden's instructions; that everything had been proper; and while that is in the interests——

Mr. WILSON.—Will you allow me just to make one remark. We have been called to sit here to-day for one thing, definite work. There is a question put to you, Mr Lennox; can you suggest to the committee the name of any counsel? Then after your suggestion has been made you may go on with your speech along the line that you started. For the moment let us proceed to business. This is what we want; this is what the country wants; this is what the government wants; and this is what we presumed your position was.

Mr. LENNOX.—My honourable friend is wrong. The Chairman asked me if I had any remarks to make in reference to the selection——

The CHAIRMAN.—I think we had better let Mr. Lennox proceed. He is a member of the committee.

Mr. LENNOX.——and I was proceeding, as well as I know how— and it will not be anywhere near equal to the way my honourable friend from Laval would present it, but it is as well as I know how. I was proceeding to give reasons that would commend themselves to your judgment and to the judgment of other members of the committee, why we should take a certain course. I say it is in the interest of the government that this matter should result in its being said that there was nothing specially wrong. Anybody knows that that must be so. It would be so if the Conservatives were in power. It would be so of every government. Then, four members of the committee are supporters of that government—from conviction, of course, from belief that that is the proper government for Canada to have. I am willing to admit all that; and I am saying, Mr. Chairman, that as a result it is impossible for those gentlemen to completely forget their political affiliations. Now, on the other hand, it is the interest of the minority of the committee to endeavour if possible, within legitimate lines, to show, as they have on many former occasions endeavoured to show, that this matter which is charged by Mr. Lumsden is well founded, and that there is necessity for investigation, and that there is necessity for a remedy. We, as members of the minority, necessarily start off with that kind of conviction in our mind. We are, like the members of the majority, anxious to do our duty, but we have our prejudices; our political affiliations necessarily prejudice our minds to some extent; and if the matter hangs in the balance, how is it going to be? Necessarily, inevitably, that the members of the committee decide in favour of their own side. Now, the commission has selected a counsel. That counsel is to be paid by the country. That counsel is counsel of the commission and the counsel of the government. That being so, we requested that a counsel should be appointed to represent the other side. I would dissent entirely from the proposition that that counsel should be said to represent the other side if that counsel is the counsel selected by the majority of the committee. Now, what I submit to the committee is this: That they do not rule by force in this case, but that they should allow the minority the privilege and the right—as I would submit, the right—of selecting that counsel, within reasonable limitations. I would not ask to select counsel that would, on his name being mentioned, evidently be incompetent. I would not ask you to accept a counsel who had been for any special reason peculiarly obnoxious in a political sense; but I would ask the committee to let the people have the opportunity of having full confidence in this investigation by allowing the minority of the committee to select the counsel. I would only ask that we should submit the names to you gentlemen, and if you said for any special reason that you would not allow any particular man to be on the list, we should not ask that; but in the interests of the public we should be allowed, within reasonable limits, to select a person to represent what we believe to be the public interest, and the opposite side from that which is necessarily occupied by the government and by the commission. I do not know what may be your view on that matter, but that is the position that I take and before we go into details I would be very glad if we had an indication of how the committee feel on that.

Mr. MACDONALD.—Mr. Chairman, long speeches such as that of my friend Mr. Lennox, which was evidently intended for his partisan press, are entirely out of place here—just as much out of place as was his action in voting here in the committee unanimously to the proposition that counsel should be selected by the whole committee, and then going into parliament a couple of hours afterwards and undertaking to move an amendment to the resolution which he had agreed to and accepted here.

Mr. LENNOX.—Mr. Chairman, I object——

Mr. MACDONALD.—I did not interrupt you.

Mr. LENNOX.—I beg your pardon, you did interrupt me, and I arise to a point of order.

The CHAIRMAN.—What is your point of order?

Mr. LENNOX.—It is that my friend Mr. Macdonald has mis-stated the fact when he says I voted for the proposition that he made yesterday. I did not vote on it. On the other hand, I started to say that it was an instalment of what we would desire, when Mr. Crothers interjected that it was satisfactory to him, and I said no more. I had a perfect right, and I had more than a right—it was my duty—to bring the matter up in the House.

Mr. MACDONALD —My friend said that he did not vote for that resolution which I proposed yesterday. All I have to say is that he did not vote against it, and he said nothing against it, when his colleague, Mr. Crothers, expressly agreed with me and said so, that it was all right; and he and Mr. Barker sitting here assented to that resolution and made no objection to it. I say that his conduct in going to the House of Commons afterwards and moving the amendment to the resolution which he did, was a want of courtesy to this committee, and an unfairness. One word more to Mr. Lennox. He has no right to assume that four gentlemen who support the government, and who partly compose this committee, have any purpose in shielding the government or the commission or the engineers or anybody. If my friend's conception of his duty as a member of this committee is so low that he means he is going to carry into this committee the partisanship which he has in the House, all I can say is that I regret that he is animated by any such notion, because so far as I know the sentiments of those supporting the government, our anxiety is to have the fullest and most complete investigation of everything that has been referred to us. In the best of good feeling we made that resolution yesterday, not with the intention of getting any partisan lawyer, or any counsel that would in any way repress anything that was referred to us, but with the idea of getting a counsel whose name would command the confidence of the public. Nobody had ever been suggested to us; we had not had anybody in mind; it was simply a general idea. My friend has entirely misjudged us, because you are aware of the fact, Mr. Chairman, that before the committee met to-day I mentioned to you that I thought our first duty would be to ask our friends of the opposition to submit to us the names of any gentlemen of repute as counsel in this country who would, in their opinion, be suitable for the purpose, and that we could talk the matter over informally and endeavour to arrive at the position where we would select a counsel that would be recognized by every member of the committee as being a good man. My honourable friend must not think that we have any unfairness about us, because that is our object, and we want to get the best man, and that is the proposition I would make to you.

Mr. LENNOX.—Now, just be fair. My learned friend goes through a long address as to my low motives and the loftiness of his. My honourable friend knows perfectly well that I did not impute any motive to anybody.

Mr. WILSON.—What did you do then?——That we were biassed and partisan. That is an insult; that is what it is.

Mr. LENNOX.—Go on; go ahead.

Mr. MACDONALD.—We need not discuss personalities. We have got to the point, as far as I was concerned, when I was going to say, Mr. Chairman, to let the opposition suggest a name.

The CHAIRMAN.—Go on, Mr. Lennox.

Mr. LENNOX.—I was going to say that my proposition was that we first see if we could agree on names. Mr. Macdonald says I attacked him, and I say my language does not bear that interpretation in any sense or form. I said we recognized that we are parties; we are parties from conviction, that we believe in our parties, and that our natural leaning would, all other things being equal, be in favour of our party. The country recognizes that, whether we recognize it or not. There is no necessity for talking nonsense here.

Mr. MACDONALD.—I say the government is not on trial here. My honourable friend thinks the government is on trial here, and therefore he thinks my learned friend and myself are here——

Mr. LENNOX.—So the government are on trial.

Mr. MACDONALD.—We say that we are not on trial. We say Mr. Lumsden has made complaints against the engineers, and we want to get a counsel in whom the country will have confidence to assist us in investigating. That is my opinion. I do not know what my other friends say.

Mr. CLARKE.—That is my opinion. My opinion expressed in the House yesterday, that the whole of the committee would have a voice in this selection of counsel, has been strengthened by the strong partisan speech made by Mr. Lennox with the evident intent of infusing partisanship into this matter. It would be a most dangerous thing that the persons on the committee who are partisans would have the selection of a counsel, who, in that case, would conduct it on partisan lines. I do not think there should be a majority or minority in this committee. I do not see why I should not agree with Mr. Lennox any more than Mr. Macdonald or Mr. Wilson. We are here for the purpose of getting at the truth of a certain inquiry, and from your partisanship I think it is the duty of every member of the committee to go after that. I don't think we should appoint a counsel who is here to make capital against one party or the other party. A man who has the confidence of the public and who can be trusted to do his duty, not for one side or the other side, that is my idea about the matter.

Mr. BARKER.—As Mr. Macdonald has chosen to bring my name in here as to misconduct in the House, I desire to say that I think he had no right to mention my name or any person's name in regard to what they did in the House.

Mr. MACDONALD.—I did not happen to be in the House, or if I had I would have mentioned it there.

Mr. BARKER.—It does not matter at all. If it had been there it would have been the proper place to make it. You have no right in this committee to comment on my conduct in the House, and I repudiate any right on your part to do so. I acted on my judgment as a member of the House. I am not answerable to any member or to the whole of this committee for that conduct. I spoke from what I felt at the time, and I am not going to repeat any of that here. All I do wish to say is that if the majority of this committee nominated by the government, undertake to say who should be the investigating counsel in this case, they will in my humble judgment make the greatest mistake men ever made, because neither in the House nor in the country will the result of this investigation be considered trustworthy if the prosecuting attorney—which he must be in the inquiry—is named by a party in this committee; I don't say partisan party, but the portion of this committee who have the least interest in a thorough investigation.

Mr. MACDONALD.—Suppose we name a good Conservative lawyer of high standing.

Mr. BARKER.—It does not matter who you name at all. At present I am speaking just to the point that is if the majority of this committee choose, against the opinions of the minority, to say who shall be a counsel who will oppose Mr. Smith, the counsel for the commissioners in this investigation, the whole investigation would be regarded

as a melancholy—as a farce— I don't know that there would be anything melancholy about it, but it would be a roaring farce. That is all I have got to say.

Mr. WILSON.—Mr. Chairman, I want to say just one word. I don't know whether it is worth protesting against the remark of Mr. Lennox, who comes to this committee a self-confessed partisan and imputes motives that do not exist, as far as I am concerned. I think I have a little conscience after all, and if I were feeling a little partisan over the matter I would give my resignation immediately and go to my seat in parliament. I am an honest man, I think, and I hope every one of us is honest; and I deny to any member of this committee or any member in the House the right to impute to an honest man motives that he has not in his soul and in his conscience. That is all I have to say.

Mr. MACDONALD.—Let us get down to business.

Mr. LENNOX.—Go ahead in any way you like.

Mr. MACDONALD.—Who would you suggest?

Mr. LENNOX.—No, I won't do anything of the kind. You can't draw me that way.

Mr. MACDONALD.—Here Mr. Chairman, are members who want to nominate the counsel, but they won't tell us who they want.

Mr. LENNOX.—I say when a man knows what is honest and what the country knows is honest, honourable gentlemen try to distort his language and get it to the press as if it were all wrong. Now, I noticed what my friend Mr. Wilson says. He says he is an honest man. Nobody doubted it at all. But I have been in the House for a number of years, and I am willing that the more my conduct is in the limelight the better it will suit me. I am quite willing to be judged by my conduct of nine or ten years in the House of Commons. I am no partisan, and I do not indicate that I am a partisan, but I repeat that it is impossible for gentlemen when they are nominated by two sides in the House, to disassociate themselves from the lifelong conviction of one kind or another. That does not matter so much; the all important point is this, that the result of this investigation should command the respect of the country. And the country will not believe that we are so utterly unconscious of politics as some of the honourable gentlemen would like to have us understand they are. They say it is four members on one side and three on the other. They say it is the commission and the government on one side and the lawyer appointed by the commission on the other; and if you add to that another lawyer nominated by the majority of the committee you have it pretty well one-sided. Go on and do it if you like; that is all I have to say about it.

The CHAIRMAN.—Well, Mr. Lennox.

Mr. MACDONALD.—That is not fair, Mr. Lennox.

Mr. LENNOX.—Well, you have not been fair. You know it, too.

Mr. MACDONALD.—I want to say this, and put it to the judgment of the committee and of every one. I submitted a resolution here yesterday which everybody agreed to. My friend persists in believing that in moving that resolution I did not mean what I said. I meant it, and I want to say to my honourable friend that if he and Mr. Barker——

Mr. LENNOX.—I never said that. I never said one offensive word about Mr. Macdonald.

Mr. MACDONALD.—All right, we will drop that. What I want to say is this, that as far as I am concerned, if you gentlemen suggest any man who seems to me to be a man who would command public confidence, who will conduct this investigation fairly and not as a partisan and you submit to us names—and as far as I am concerned I have no names to submit, and I am perfectly open-minded about it—I would like to know what your views are.

Mr. LENNOX.—Well, what I asked the committee to do was this: I asked you to indicate whether you would be disposed to allow the minority to name the counsel provided they did not name a man who would be objectionable for any cause whatever.

The CHAIRMAN.—For that purpose we want the name.

Mr. LENNOX.—But I don't propose to play fast and loose with anybody. If the committee will say they are disposed to do that, then I think it would be reasonable that we should submit names.

Mr. CLARKE.—You want the four of us to say that we shall have no voice in the selection?

Mr. LENNOX.—We think you can fairly leave that to us, but that it should be open to you to object if there is any cause.

Mr. MACDONALD.—I would not like the members of the committee to discuss in public the merits or demerits of a brother professional man.

Mr. LENNOX.—I know the fraternity of my learned friend is unbounded.

Mr. MACDONALD.—Thank you very much. We are changing the current of our thoughts now.

Mr. LENNOX.—Here is what you can do. If you cannot think of a suitable Liberal counsel—you say you have not any one in your mind—could you not think of some prominent and distinguished Conservative counsel whom you could suggest, and may be we would fall into line at once?

Mr. CLARKE.—Somebody who is non-partisan; that is what we want. We don't care about any particular party affiliation.

Mr. LENNOX.—For instance, if we had a man of the type of Christopher Robinson in his old days I think we could agree, of course, on a man of that kind; but they are not very plentiful, and I cannot say that I could think of another man.

Mr. WILSON.—Are you prepared to say, Mr. Lennox, that a Liberal member of the bar would not be accepted by you?

Mr. LENNOX.—No, I am not going to say that in advance.

Mr. WILSON.—Supposing we propose one?

Mr. LENNOX.—No, I am not going to say that in advance, but I will tell you this much if you like, if it is any comfort, that I might think of two or three Liberals that would be very objectionable to me, who are very prominent lawyers at that.

Mr. CLARKE.—I know some that I would not approve of, too.

Mr. MACDONALD.—Me too.

The CHAIRMAN.—I think the committee is ready to take your suggestions, and if you appoint a man who has the general confidence of the country as a lawyer I think we will be ready to accept it. Of course we don't want to agree before we know the name. We want to be the judge. We are lawyers, and we know the standing of the lawyers in this country.

Mr. LENNOX.—I think that is very fair.

Mr. MACDONALD.—We would want, I suppose, to propose to you some names. At the same time, I think the discussion is one that ought to be informal, and I would be perfectly willing to have it informal, to a certain degree private, with a view to arriving at a decision. I would object to discussing publicly whether or not so-and-so would be an agreeable counsel. I would not hesitate to do so privately, and I would be perfectly willing at a subsequent day, when we got some information as to counsel, to meet here privately and discuss the thing, and if there is anything to be said that honourable gentlemen want to say afterwards publicly, they could do so.

Mr. BARKER.—I don't think it would be proper at any stage to bring a man's name up and openly state objections to him. It would be an insult to the man, whether Liberal or anything else.

Mr. MACDONALD.—Certainly, we should not do that.

Mr. LENNOX.—I think that would be quite unfit. There might be many reasons against a man, though he might be most proper in some respects. We are all probably in the same position in that regard. Suppose we named one gentleman that we particularly liked, we would not be able to say that he would be the person because we would not know whether or not he could act.

Mr. MACDONALD.—As far as I am concerned, I had thought of several gentlemen, but I don't know whether one could submit their names to the committee or not, because I have not communicated with them.

Mr. CLARKE.—I would suggest that we might leave it to two members of the committee, one on each side, to discuss the matter pro and con, and then it could be submitted finally to the other members.

Mr. MACDONALD.—And then let the whole committee settle it.

Mr. CLARKE.—For expedition a few are better.

Mr. BARKER.—I have no objection to leaving it to Mr. Lennox as one, and let him meet one of the others and see if they can agree.

Mr. LENNOX.—Suppose we gave you five names. We would have very possibly a choice in those five names, of course. If we gave you five names to-day, we will say there would be one or two names that we ourselves would very much prefer, and you no doubt would be the same way. If we knew who would act it would not be so. Then it would not be fair that the other side would light on the very one that accidentally would be the least desired of any of them, and say, "We will take that man," would it?

The CHAIRMAN.—I think the plan suggested—

Mr. LENNOX.—Do I make myself plain? We would say, "Here, will you allow us to have one of these men"—and we decide ourselves which it is. We say, "If we don't have any of them, the list is out of the question."

Mr. BARKER.—How would it do for Mr. Clarke and Mr. Lennox to meet and see if they can report to the committee on a line that would be satisfactory?

Mr. LENNOX.—The only trouble is that I am going away.

Mr. CLARKE.—So am I.

The CHAIRMAN.—Then I would suggest Mr. Macdonald and Mr. Barker.

Mr. CLARKE.—Yes, that would be satisfactory.

The CHAIRMAN.—Let them come together and discuss the matter, and if they can agree—and I think they will—well and good. If not, they may come before the committee.

Mr. LENNOX.—All right; that would be very well, I think.

Mr. MACDONALD.—We really would take some care to find out who would act. For instance, in discussing the thing informally that way we might mention the name of the man who could not possibly act. I think we ought to be in a position to have two or three names to discuss on both sides.

Mr. LENNOX.—What about the number? Do you mean any more than one counsel, or to have one leading counsel and a junior counsel?

Mr. MACDONALD.—One counsel.

Mr. WILSON.—One counsel.

Mr. LENNOX.—The reason I mentioned that is this, that sometimes you can get a very prominent counsel, a very able and very good man, but perhaps he could not give as much time to this matter as we might require.

Mr. MACDONALD.—He might take his junior in his office to help him in the work.

Mr. LENNOX.—Some men would not work up the details; they could not be bothered.

Mr. CLARKE.—Give the counsel a retainer that would be wide enough to employ assistance.

The CHAIRMAN.—I don't think that we should enter into the minutes this long discussion.

Mr. LENNOX.—No.

The CHAIRMAN.—Now, about those engineers, I brought the matter before the committee the other day, at the last meeting I think. Shall we simply tell them, as it was decided at last meeting, that they will be informed of the date that they are needed? Because it may take a week or two before they get ready to come up here, and we may need them before that, and then it may stop the proceedings of the committee. Is it not better that we should tell them to come and be at hand here?

Mr. MACDONALD.—Certainly.

Mr. LENNOX.—I understood yesterday that we would merely notify them that their conduct had been called in question, and that they could come or not as they see fit, and then I thought that they would be notified of the day later on. There is no day fixed yet, is there?

Mr. MACDONALD.—No; we are to settle that to-day.

Mr. CLARKE.—They have not been notified yet?

The CLERK.—No..

The CHAIRMAN.—I think it will take a long while. Some are away out west. They cannot start the next day after they get a letter. I do not know but it might be better that they should be told when they are expected to be here. Now, surely we will need them before very long, and they want to be here when the examination of witnesses is going on, so I think we ought to get them.

Mr. BARKER.—The only objection I see to that is this, I don't think the committee the other day wanted these gentlemen to understand that they are summoned here, but only that they are at liberty to come if they desired to come, and that then they will be here. Now, if you fix a day or anything of that kind they will consider themselves bound to come here, perhaps from a long distance away, and it is going to be a very considerable item if you bring a dozen or twenty engineers here at public expense when it may be quite unnecessary.

Mr. MACDONALD.—Sure. The statement was made here yesterday by one of the commission that it would take a week for them to get here. Well, of course in my view they are parties who are charged. They ought to be notified that on such and such a day the hearing of this matter is going on and if they want to come here they should come.

Mr. LENNOX.—Just keep them posted as to the dates.

Mr. BARKER.—Also we would write to them if they desired to attend.

Mr. MACDONALD.—They really have to come, if there is any man whose act is impugned by Mr. Lumsden. I should fancy the committee would want some counsel to bring a man here if he is in the government service, and hear what he has to say.

Mr. LENNOX.—I think almost necessarily.

The CHAIRMAN.—Then there is nothing to change in the order; simply that they should be notified now.

Mr. MACDONALD.—That the committee would meet on a certain day.

Mr. CLARKE.—How would it be to suggest that we should meet on a certain day, say a week from Monday or Tuesday, and then they could be here.

Mr. BARKER.—Have we settled the day next week?

Mr. MACDONALD.—No, we talked generally about next Thursday. We might have an informal meeting to settle this question of counsel next week. Whoever might be appointed counsel would not be ready to go right on, anyway, and I think the best way would be to arrange to begin by the taking of evidence, say on the 7th or 8th of March, because next Tuesday is the first of March, and in the meantime the question of counsel can be cleared up, and he could have his instructions and have his case ready, and if he has his material ready we can get on a good deal faster than if we threw him into it without being prepared; don't you.

Mr. LENNOX.—I think so.

Mr. MACDONALD.—It will probably go along more expeditiously if he has a day or so to get ready.

Mr. LENNOX.—We meet to go on with evidence the week after next.

Mr. MACDONALD.—Yes.

Mr. LENNOX.—Did you mention the day?

Mr. MACDONALD.—The 7th is Monday and the 8th is Tuesday. Monday would suit me.

The CHAIRMAN.—Monday is not a good day.

Mr. MACDONALD.—Better say Tuesday the 8th March; then everybody could make

their arrangements so as to be here, and we could sit probably morning, noon and night, and then go along, and we could meet at the call of the chair meantime.

Mr. LENNOX.—You want to get the question of counsel fixed as soon as ever you can.

Mr. MACDONALD.—Yes. Mr. Barker and I are conferring about that. We can adjourn till March 8, subject to the call of the chair meantime.

Committee adjourned at 2.45 p.m.

TUESDAY, March 8, 1910.

The committee met at 11 o'clock a.m., Mr. Geoffrion presiding.

Minutes of the last meeting read.

Mr. MACDONALD.—The minutes should be corrected to make it appear that my motion with regard to the appointment of Mr. Nesbitt as counsel was made previous to Mr. Crothers or Mr. Barker saying anything with respect to what they intended to do.

The CHAIRMAN.—Shall the minutes be adopted?

Mr. MACDONALD.—Subject to that correction. Mr. Lennox made a remark, and then I made my motion, and those other things came afterwards.

The minutes, as corrected, adopted.

The CHAIRMAN.—The Clerk, in accordance with the resolution adopted at the last meeting, notified Mr. Nesbitt of his appointment as counsel for the committee, and has received in reply a letter from Mr. Nesbitt, which I will read:

TORONTO, March 5, 1910.

WALTER TODD, Esq.,
Clerk Special Committee
Investigating H. D. Lumsden's Charges,
Ottawa.

DEAR SIR,—I am in receipt of your letter of the 4th instant notifying me that I have been appointed as counsel for the committee for the purpose of conducting the investigation in the public interest, and requesting me to inform you of the earliest date I can be present for that purpose.

I regret to say that I am unable to undertake the inquiry.

Yours truly,

WALLACE NESBITT.

Mr. WILSON.—Is there any other name mentioned?

Mr. CLARKE.—Mr. Chairman, in view of the position taken by Mr. Nesbitt it is necessary that the committee appoint another counsel, and I would, therefore, move that Mr. Chrysler, of Ottawa, be appointed counsel to represent the public. Mr. Chrysler's standing at the bar and in the community are sufficient evidence that his appointment would be satisfactory to all parties concerned.

Mr. WILSON.—I second the proposition.

The CHAIRMAN.—It is moved by Mr. Clarke, seconded by Mr. Wilson, that Mr. Chrysler be retained as counsel to represent the public. Is it the pleasure of the committee to adopt the motion?

Motion declared carried.

Mr. JOHN H. MOSS, K.C.—I appear here at the request of and on behalf of the engineers who are named by Mr. Lumsden in his statement as being the engineers in

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whom he had lost confidence and brought about his resignation. I desire to ask, in the first place, that they may be represented by me as counsel, and, in the second place, to state in their behalf that they desire to have the aspersion which has been thrown on their professional standing investigated fully and thoroughly, and they desire that the investigation should not close without their having the fullest opportunity of clearing their names, as they believe they can, from any suggestion of wrong-doing or incompetence.

The CHAIRMAN. I think it is fair that the engineers should be represented, and that there should be the fullest investigation.

Mr. MACDONALD.—I would move that the engineers have leave to appear before the committtee through Mr. Moss as their counsel.

The CHAIRMAN.—Shall the motion be adopted?

Motion declared carried.

The CHAIRMAN.—Mr. Lumsden, is it still your desire not to be represented by counsel?

Mr. LUMSDEN.—It is.

Mr. MACDONALD.—I suppose, Mr. Lumsden, you are prepared to consult with Mr. Chrysler and give him any information that may enable him to deal with the matter?

Mr. LUMSDEN.—Well, I feel that I am not interested beyond my own statements.

Mr. MACDONALD.—It is important that the committee should have the advantage of all the information possible, and as Mr. Chrysler has been nominated as counsel for the public, it would be the desire of the committee that you should communicate with him.

Mr. LUMSDEN.—Yes.

The CHAIRMAN.—And give him all the information possible.

Mr. MACDONALD.—And with Mr. Smith, if necessary, so that we should have the fullest information before us. It is understood, of course, Mr. Lumsden, when we have been talking about the question of your having counsel, that the committee were of the opinion that they would pay for counsel.

Mr. LUMSDEN.—Oh, yes.

Mr. MACDONALD.—If necessary; you understand that?

The CHAIRMAN. I suppose that the Transcontinental Railway Commission will be ready to give all information possible to Mr. Chrysler if he wants information. Of course, Mr. Chrysler will undertake the case, and wants to be posted as much as possible. Therefore, he can communicate with Mr. Smith, counsel for the commission, and Mr. Lumsden; he has got to be posted on the case before he commences the inquiry. What is the pleasure of the committee now?

Mr. MACDONALD.—I see that Mr. Chrysler is here. Perhaps he can tell us what he is prepared to do?

Mr. CHRYSLER.—As to time, sir?

The CHAIRMAN.—Yes.

Mr. CHRYSLER.—Well, the whole matter, of course, is very new to me. I have no knowledge even of the material which has been placed before the committee at the previous sittings. I should like to have an opportunity of going over that and discussing the matter with Mr. Lumsden and some of the other gentlemen whose knowledge of the matter is intimate. I should think I would be prepared to go on on Thursday; take a day or two.

Mr. CLARKE.—I should think Mr. Chrysler would require that time to be prepared.

The CHAIRMAN.—We are empowered to sit in the afternoon. If the morning would not suit you, we might sit on Thursday afternoon. The committee can meet during the sittings of parliament.

Mr. CHRYSLER.—I understand that a number of engineers are here. I did not know they would be present this morning. But as they are in town, no time will be lost in securing their attendance. I should think at present that we would be able

to go right on with the inquiry, giving it such time as the committee are able to give it.

Mr. MACDONALD.—Would that suit you, gentlemen, if the committee meet on Thursday morning?

Mr. Moss.—It is perfectly satisfactory to me.

Mr. SMITH.—And to me.

Mr. MACDONALD.—How about you, Mr. Chairman?

The CHAIRMAN.—I would like it if the committee could meet on Thursday afternoon; but, of course, if you decide that Thursday morning is better, it will be quite satisfactory.

Mr. CHRYSLER. I would prefer Thursday afternoon, which would give me a little more time if it is of any advantage to the committee.

Mr. MACDONALD.—Then we will say four o'clock on Thursday afternoon, so as to get through the preliminaries at the opening of the House. We can sit at night if necessary.

The CHAIRMAN.—Yes; we can sit at night, if we decide to do so.

Mr. MACDONALD.—We can sit right along. It is desirable that we should sit as continuously as possible, and I would like to sit on Saturday also. I do not know how the other members of the committee feel about that, or whether they want to go home over Saturday.

The CHAIRMAN.—Is it understood that the committee is adjourned until Thursday afternoon at 4 o'clock?

Mr. WILSON.—Before that proposal is disposed of I want to ask a question of Mr. Lumsden. Have you any other name to give, Mr. Lumsden, or to add to the list already produced?

Mr. LUMSDEN.—No, I have no names to give except the names of those who are responsible for the work in those stations, the numbers of which I gave, and which I am not positive of.

The CHAIRMAN.—The committee stands adjourned until Thursday afternoon at 4 o'clock for the taking of testimony.

THURSDAY, March 10, 1910.

The committee met at four o'clock p.m., Mr. Geoffrion, the chairman, presiding.

Mr. CHRYSLER, K.C.—Mr. Chairman, I have gone into a part of the evidence with Mr. Lumsden, and he is here to-day and I propose to call him as a witness if the committee will hear him. I desire to make use again of a number of the letters and papers which have been printed in the former proceedings of committees of the House, one is the committee on charges made by Major Hodgins and the other, not a report of a committee, but a return to the order of the House dated 16th November, 1909. I have asked the secretary of the Board of Railway Commissioners to have the original letters. He has not got them here just at present, but they are in the custody of the commission or of the House, and I suppose the committee will allow me to go on and make use of the printed copies.

Mr. MACDONALD.—It seems to me that these documents are public documents now; they have been issued under the authority of Parliament and the evidence was received first hand by the King's Printer. Personally I have every confidence that they are authentic, and in that way they can be taken without requiring the production of the originals.

Mr. CHRYSLER.—We could get the originals here to have them marked by the clerk, if that is desired to identify them.

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The CLERK.—They have all been compared with the originals.

The CHAIRMAN.—They are simply public documents are they not?

Mr. MOSS.—As far as I am concerned I am agreeable.

Mr. MACDONALD.—I suppose these papers in the return have been referred to us by the reference to the committee. They are really before us now.

Mr. CHRYSLER.—The order does not seem to refer to that.

Mr. MACDONALD.—It does not go that far?

Mr. CLARKE.—I think it would be quite right to adopt the suggestion to refer to the printed copies at the present time.

Mr. CHRYSLER.—The returns to which I refer is sessional paper No. 42a.

Mr. MACDONALD.—They will be in the hands of counsel if counsel are willing to accept them.

Mr. SMITH.—I think they are quite authentic as far as any proceedings of this committee are concerned.

Mr. WILSON.—If any party disputes their authenticity the originals may be referred to.

Mr. CHRYSLER.—I was going to suggest that, that if any one desired to see any of these original documents we will undertake to produce them. The commission will do that.

The CHAIRMAN.—Very well.

Mr. CHRYSLER.—Has Mr. Lumsden been sworn?

The CHAIRMAN.—He has been sworn, yes

By Mr. Chrysler:

Q. I want to refer first of all, Mr. Lumsden, to the statement which you put in the other day, and it would be convenient perhaps if you had it in your hand. It is (Exhibit No. 1) to be found at page 71 of the printed record of the proceedings of this committee. Your statement begins:—

> I resigned my position as chief engineer of the Transcontinental Railway for the reasons expressed in my two letters to the commissioners of 25th and 26th June, 1909.

Now, I want first of all to put in these two letters so that we will have the exact language of them. . They are to be found in the S. Paper No. 42a, already referred to, at page 28. Perhaps you had better take that in your hand also?—A. Yes, I have got that.

Q. You will see at the top of the page a printed copy of a letter from yourself to the Minister of Railways?—A. Yes.

Q. (Reads):

EXHIBIT No. 4.

OTTAWA, June 25, 1909

'Hon. GEORGE P. GRAHAM,
Minister of Railways and Canals,
Ottawa.

SIR,—Herewith I beg to inclose copy of a letter written by me to-day to the commissioners of the Transcontinental and for the reasons therein mentioned, I beg to resign my position as chief engineer of the Transcontinental railway, and trust that I may be relieved of the duties connected therewith at as early a date as may be convenient.

HUGH D. LUMSDEN,
Chief Engineer.

The next letter on the same page bearing the same date you wrote to the commissioners. (Reads):

EXHIBIT No. 4*a*.

OTTAWA, June 25, 1909.

'To the Commissioners of the
Transcontinental Railway,
Ottawa.

SIRS,—My recent trips over portions of Districts 'B' and 'F' in connection with the arbitration on points in dispute regarding the classification and overbreak between the chief engineer of the Grand Trunk Pacific Railway Company and myself (which arbitration might have been proceeded with more than eight months ago but for delay on the part of the Grand Trunk Pacific), have led me to the conclusion that neither the general specifications nor my instructions regarding classification have been adhered to, but on the contrary large amounts of material have been returned as solid rock, which should only have been classified as loose rock or common excavation, and material has been returned as loose rock which was, or could have been handled by ploughing or scraping, and should have been returned as common excavation. On several residencies there seems to be no attempt by the engineers to carry out my instructions and measure rock returned, either by showing the same on cross sections, or by measurements of individual pieces, but they simply appeared to have guessed at the amount by taking percentages of the total cutting. In some cases where cross sections were prepared showing ledge rock, they proved to be erroneous, resulting in a very much larger amount of the solid rock being returned than actually existed. What is known as overbreak has also been returned in many places where it was caused by excessive use of explosives, and where the material was wasted, this should not have been done. Such being the case I must decline to certify to any further progress estimates in Districts 'B' and 'F,' and in view of the general disregard of my instructions, and having lost confidence in the engineering staff, I have concluded to resign my position as Chief Engineer, and have to-day written to the Honourable the Minister of Railways and Canals to that effect, inclosing him a copy of this letter.

HUGH D. LUMSDEN.

Now at page 32 of Sessional Paper 42a, at the top of the page you will find a second letter to the Commissioners dated the following day?—A. Yes.

EXHIBIT No. 5.

OTTAWA, June 26, 1909.

'The Commissioners of the
Transcontinental Railway,
Ottawa.

DEAR SIRS,—Referring to my letter of yesterday wherein I stated that I have lost confidence in the engineering staff, I beg to state that this does not apply to the whole staff, but applies only to a portion of the staff who were responsible for the measurement, classification, supervision and inspection of considerable portions in District 'B' and east of Rennie Crossing in District 'F' lately gone over by me.

HUGH D. LUMSDEN.

P.S.—In order to make the matter clear, I may say I assume my resignation as Chief Engineer also carries with it my resignation as arbitrator in matters of dispute with the Grand Trunk Pacific Railway Company, but as there is a doubt raised by you, I also resign as arbitrator.

Now, those are the letters that you referred to in your statement the other day, and which are recited in your statement, and before going on to the facts which led

up to the resignation, I just want you to put before this committee the sections of the specifications which are material to this inquiry, and which are referred to in your letters. I now file a copy of the specifications as Exhibit No. 6.

Mr. MACDONALD.—To what clause of the specifications do you refer?

Mr. CHRYSLER.—Clause 33 of the specifications under the heading of 'Classification.' (Reads):

Classification 33.—Grading will be commonly classified under the following heads: 'Solid Rock Excavation'; 'Loose Rock' and 'Common Excavation.'

Solid Rock Excavation. 34.—Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

Loose Rock. 35.—All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock, whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials, that cannot, in the judgment of the engineer, be ploughed with a 10-inch grading plough, behind a team of six good horses, properly handled; and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'loose rock.'

Common Excavation. 36.—Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.

36A.—No classification other than that of common excavation will be allowed on material from borrow pits, except by order in writing of the engineer.

Mr. Moss.—Excuse me; I think that 36A is not in these contracts. This is a later edition.

By Mr. Chrysler:

Q. What is 36A; is it an addition or is it in all the contracts?—A. There were some changes made in the contracts subsequent to the McArthur and Davis and Macdonnell and O'Brien contracts. It is possible that is an addition.

Q. It is possible that 36A is not in the contracts, not in the section now in question?—A. It may not be in it.

Q. (Reads):

Slides. 37.—Materials in slips, slides and subsidences extending beyond slopes in cuttings will not be paid for unless, in the opinion of the engineer, such occurrences were beyond the control of the contractor and not preventable by use of due care and diligence.

Classification of Slides. 38.—The classification of material from slides shall be made by the engineer and will be in accordance with its condition at the time of the slide, regardless of prior conditions.

Are there any other clauses of the specifications that are important under this?—A. Those are the principal ones.

Q. If any question turns up I may have to refer to some of the others. Then, without reading it, the word 'Engineer' is defined in the second section of the contract to be found at page 12 of the general specifications as meaning the Chief Engineers, acting as such either directly or through the Assistant Chief Engineer, District Engineer, Division Engineer, Resident Engineer or Inspector having immediate charge of a portion of the works limited by the particular duties entrusted to him.

Mr. MACDONALD.—Might I ask you, Mr. Chrysler, have you got there the extracts in regard to the duties and powers of the chief engineer which will be found in the Act of the agreement of 1903? It would be desirable, perhaps, to have that put in at this stage so as to clear the ground.

Mr. CHRYSLER.—The statute authorizing the construction of the National Transcontinental Railway is chapter 71, statutes of 1903, and the agreement made between the government and the representatives of the Grand Trunk Pacific Railway is a schedule to that Act, and is printed with it in the volume of statutes.

By Mr. Chrysler:

Q. Now, do you remember the section in regard to the appointment of the chief engineer? I think 7 is the clause here under which you were appointed, Mr. Lumsden?—A. I do not know what the number is at all.

Mr. CHRYSLER.—(Reads):—

7. In order to insure, for the protection of the company as lessees of the Eastern division of the said railway, the economical construction thereof in such a manner that it can be operated to the best advantage, it is hereby agreed that the specifications for the construction of the Eastern division shall be submitted to and approved by the company before the commencement of the work, and that the said work shall be done according to the said specifications, and shall be subject to the joint supervision, inspection and acceptance of the chief engineer appointed by the government and the chief engineer of the company, and, in the event of differences as to the specifications, or in case the said engineers shall differ as to the work, the questions in dispute shall be determined by the said engineers and a third arbitrator to be chosen in the manner provided in paragraph four of this agreement.

Mr. MACDONALD.—That is relating to differences?

Mr. CHRYSLER.—Yes.

Mr. MACDONALD.—There is a clause as to the appointment of chief engineer.

Mr. CHRYSLER.—It is in the Act. Section 10 of the Act contains this provision with regard to the chief engineer. (Reads):—

The Governor in Council may appoint a secretary to the commissioners, who shall hold office during pleasure, and may also appoint a chief engineer for the Eastern division, who shall hold office during pleasure, and who, under the instructions of the commissioners and subject to the provisions of the agreement, shall have the general superintendence of the construction of the eastern division.

Q. Now, are you that chief engineer?—A. Yes, I was.

Q. Or you were until the time of your resignation? You were appointed under that section by the Governor in Council?—A. Yes.

Mr. MACDONALD.—What about the other engineers, is there anything about other engineers being appointed?

Mr. CHRYSLER.—Section 11 of the Act provides. (Reads):—

The commissioners may appoint and employ such engineers (under the chief engineer), and such surveyors and other officers, and also such servants, agents and workmen, as in their discretion they deem necessary and proper for the execution of the powers and duties vested in them under this Act.

Q. You were the only engineer appointed under the statute?—A. The only one appointed by the government.

Q. The only one to be appointed directly by the Governor in Council. Now, with regard to the specifications. The specifications which we have in this book (Exhibit No. 6) and which we have been reading, were they submitted to and approved by the Grand Trunk Pacific before the execution of the contract?—A. Yes. There were changes made after the first contracts had been let. After the Davis, O'Brien and Macdonnell and McArthur contracts were let there were certain changes made in the specifications, but they were approved.

Q. They were all approved?—A. As far as I recollect they were all approved by the Grand Trunk Pacific Railway.

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Q. And do you know—it may not be of importance—whether the same specification was adopted by the Grand Trunk Pacific Railway for the line of railway which they constructed from Winnipeg west?—A. I do not know positively, but I understand so.

Q. The sections which you mentioned in these letters are section F and part of section B?—A. Part of F.

Q. Part of F and part of B?—A. Part of B.

Q. Those are the divisions are they not?

By Mr. Moss:

Q. Districts?—A. Districts really.

Q. I want to get your organization. How many districts were there on the whole of the railway to be constructed by the government?—A. Six, I think.

Q. And what was the extent of B?—A. Well, I think, it was originally 400 miles.

Q. I was not speaking of mileage, but where does it begin?—A. It commenced at the boundary between Quebec and New Brunswick and extended up to—right up to Weymontachene on the St. Maurice river.

Q. And you say that was roughly 400 miles?—A. I think it was over 400 miles. I am not positive, it may not be quite 400 miles.

Q. And part of that district lay to the south and east of the St. Lawrence river?—A. Yes.

Q. And part of it to the west, so that Quebec was somewhere in the middle of that district?—A. Yes.

Q. Quebec city?—A. Yes.

Q. And a portion of the district to which this refers is a part of the district lying to the north of Quebec City?—A. Yes.

Q. I think you said in your statement that it began at La Tuque, or near La Tuque.—A. It did not begin at La Tuque. It began about fifty miles from the north end of the Quebec bridge. That is where the contract began.

Q. And extended to Weymontachene?—A. Not as far as Weymontachene. Are you referring to what I complained of?

Q. Yes.—A. It extended to about thirty miles or so north of the St. Maurice. I forget the exact mileage.

Q. Well was the fifty miles between the end of the Quebec bridge and the point of intersection under construction also?—A. Oh, yes, but we did not go over that.

Q. Where was the district F?—A. District F extended about fifty miles northwest of Lake Nipigon westerly to Winnipeg.

Q. And it included the McArthur contract?—A. It included the McArthur contract.

Q. What was McArthur's contract, for how much of it?—A. 244 miles, I think.

Q. From?—A. From Winnipeg easterly or rather from near Winnipeg easterly.

Q. From Winnipeg to the end of the district?—A. Well, it was what was known as Peninsula Crossing, I think, originally.

Q. Was that the point where the branch line of the Grand Trunk Pacific was to meet the Transcontinental?—A. The branch line of the Grand Trunk Pacific was supposed to join at that point.

Q. Then you were the chief engineer. What were the officers of the engineering staff immediately under you?—A. There was an engineer of district. There was a district engineer and one or two assistant engineers.

Q. In district 'B' there was a district engineer and——A. And two assistant engineers.

Q. Then who were the next immediately under the district engineer and his assistants?—A. There were division engineers?

Q. About what length of line would they have in their division?—A. Well, it varied from probably thirty to fifty miles.

Q. Then were they the men immediately in charge of the work?—A. No, they had resident engineers under them.

Q. About how much territory would a resident engineer have in his charge?—A. Eight to twelve miles.

Q. So that a division engineer would have three or four resident engineers to superintend?—A. Three or four.

Mr. CLARKE.—Were they the men who gave the certificates?

Mr. CHRYSLER.—I was going to ask that.

Q. Now, is this book authentic (producing copy 'General Instructions to Civil Engineers Concerning Surveys and Construction') (Exhibit No. 7), are you able to speak of it as being authentic?—A. I know that book was issued to the engineers. I think my name is on the end of it if I mistake not.

The CHAIRMAN.—What is that book?

Mr. CHRYSLER.—It is a book of instruction to engineers.

Q. Your name is not printed there?—A. I am not sure. (After examining book). It is not.

Q. Was it prepared directly by you?—A. No, I went over it I remember, but I did not really prepare it.

Q. Was it prepared by your assistant?—A. Yes.

Mr. MACDONALD.—Was it issued by him in connection with the construction?

The WITNESS.—It was issued from our office.

By Mr. Chrysler:

Q. Under your authority? Then have you looked at this to see whether the book contains any instruction as to classification; as to the interpretation of the specification?—A. I do not know whether it refers to classification other than to cross section work.

Q. You might let us have that; what particular instructions refer to the duties of the engineers as to cross sections?—A. There is one section here, 63, regarding staking out work. (Reads):—

> As soon as possible the cross-sections should be finished up. Plot each cross-section and calculate its area the same day. All work must be staked out, ditches, creek diversions, right of way, berms, &c.; set stakes for all excavations and embankments to sub-grade, as shown on the grade line of the profile. Stake out bridge ends as shown on masonry plans, &c. Use good strong stakes, well driven; mark the proper station and plus on the side from the road-bed and the cut or fill on the back; mark the centre stake likewise. Cross-section curves at least every 50 feet, unless the surface is practically level.

There is another here somewhere, I think. On page 14 (Reads):—

> Before fixing the final location cross-sections of all side hill work will be made, and before beginning work of grading cross-sections at least at every 100 feet station whether in excavation or embankment, and also at a sufficient number of intermediate points wherever a change in the ground takes place, so as to ensure a perfectly accurate record of the various inequalities of the original surface. These cross-sections will extend on each side of the centre line and at right angles thereto a sufficient distance to include all side ditches.

By Mr. Smith:

Q. That is a portion of section 15?—A. Yes, it is in section 15 of the General Instructions.

By Mr. Chrysler:

Q. These are the only provisions in the instructions that refer to——A. The only ones I have noticed.

Q. To cross sections?—A. Apparently.

Q. But nothing that you have observed, nothing in reference to classification other than the specification was put in the hands of the engineers, I suppose?—A. The classification? Not more than is in the specification.

Q. What date were these instructions issued, do you know, Mr. Lumsden?—A. I do not know.

Mr. MACDONALD.—There is nothing in the book to indicate.

By Mr. Chrysler:

Q. There is no date?—A. I do not think so.

Q. Were they issued before the work commenced?—A. I am under the impression they were issued before the work commenced, but I am not positive.

By Mr. Smith:

Q. Does not that profess to relate to the location of the work?—A. That cross section does, it says, 'Before fixing the final location,' that does refer to location work.

Q. That which you have just read?—A. The section I have just read.

Q. Then it does not refer to classification?—A. No, no.

(General instructions to civil engineers concerning surveys and construction—the National Transcontinental Railway, Eastern Division filed as Exhibit 7.)

Mr. SMITH.—It reads, 'The Commissioners of the Transcontinental Railway. General Instructions from the Chief Engineer to the staff, explorations and preliminary surveys, location and construction.' It does not appear who printed it nor is there any date.

The CHAIRMAN.—But Mr. Lumsden said it was issued under his authority, no matter who printed the book, and he says he thinks it was issued before the commencement of the work.—A. I think it was issued before grading was commenced.

Mr. MACDONALD.—It relates to location more than to classification.

By Mr. Chrysler:

Q. It relates more to location?—A. It is more with regard to location than it is to construction.

Q. Will you look at this report of the committee, there are some letters there I want to introduce——

Mr. CHRYSLER.—I have a letter from the Secretary of the Transcontinental Railway Commission which has just been handed to me about the production of the originals of these letters, Mr. Chairman, I would like to know if that is satisfactory? (Letter handed to Chairman.)

The CHAIRMAN.—Yes.

Mr. CHRYSLER.—He says he wants to have them returned to his files, but they will be on hand if required, in fact he has sent up the originals that I asked for.

Mr. MACDONALD.—It only loses a lot of time going for the originals when you have copies there in the report.

By Mr. Chrysler:

Q. Will you look at a letter (Exhibit No. 8) from yourself to the Commissioners dated the 24th of September, 1907. What was the occasion of writing that letter Mr. Lumsden?—A. What were my reasons for writing it?

Q. Yes, what caused you to write it, what was the situation at the time?—A. I think it was from either a letter or a communication from the Board about the situation in District 'F,' about trouble in regard to the work in District 'F.'

Q. Without reading the letter at length, if you look at the paragraph on page 33, the last but one, it contains a recommendation for the appointment of Mr. Poulin, of District D, as District Engineer of 'F'?—A. Yes.

Q. And there are a number of other matters that are dealt with in that letter. I think I will put it in without reading it again; it is a long letter, which is already in.

Mr. MACDONALD.—I notice at the end of that letter Mr. Lumsden suggests the possibility of resigning at that stage.

By Mr. Chrysler:

Q. Yes, perhaps that might be referred to here. (Reads):

> Personally, I feel that matters are so different under a government commission, whose powers are limited by the Act, from what they had previously been under a corporation, who could act on their own initiative and take the responsibility of making such modifications in contracts as now suggested by me in just such difficulties as are now being experienced in District 'F,' that unless some relief can be given, the strain and worry connected with my present position is more than I can stand, especially as the salary is not in proportion to the responsibility involved.

Perhaps by looking at the letter you can refresh your memory as to the things you had in mind when you wrote that letter. Take the first matter you refer to there, how was it you found matters different under a government commission from what they had been under a corporation? Was this the first office in which you had been acting as a government engineer?—A. Well, I had been acting as a government engineer in 1877, I think.

Q. Yes, but not for many years afterwards?—A. Not for many years afterwards, not until I came to the Transcontinental.

Q. What had you in mind there when you speak about the difference in your position as being an officer under the government commission?—A. Because with a company I could go to the company and they might make modifications without any reference to any one else, and without having to refer it to the government.

Q. What was the situation in this contract, Mr. Lumsden? Was not that the case with the commission? Could the commission not, at your suggestion or recommendation, make modifications in the contract?—A. I do not think so, not after it was once signed by the government, not without the approval of the government.

Q. That is your recollection of it; of course, we can ascertain if any clause could be made, even by the commissioners?—A. I do not think so.

Q. It required the approval of the government; that is your view, at any rate? —A. Yes.

Q. Just another question that seems to arise out of that: had you in your mind the advisability or the desirability, if the power was in your hands, of making modifications in the contract?—A. Had the prices remained as they were at the time that letter was written.

Q. Then that refers to——?—A. That was the state it was in at that date.

Q. That refers to matters which are set out in the first and second paragraphs of that letter, the advance in prices, do you say, Mr. Lumsden?—A. Yes.

Q. I am right about that?—A. Yes.

Q. 'Owing to the great demand for labour in the west, wages almost immediately after he took the contract, went up 25 per cent and timber about the same amount. As labour is one of the principal items of expense in a contract of this kind, it naturally follows that the contractor or his subs, must go behind on such items as he tendered low on, and I have no doubt the statement made—but not by the contractor—that he is losing money on considerable portions of this work is correct, especially so when the poor quality of the labour and the difficulty and cost of securing and retaining it is taken into consideration'?—A. Yes.

Q. Now, you say as matters stood at the date when you were writing that letter

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you would have thought it desirable, if it had been in your hands or in the hands of the Commission acting on your advice, to suggest modification of the contract?—A. Yes, that is if the contractor had gone on and matters had remained as they were; if the contractor had gone on he would have come out away behind.

Q. Then was that altered by the change of conditions subsequently, is that what you mean to say?—A. The conditions were that within about six months, I should say, from that date, or possibly a little earlier, wages went back to where they had been before.

Mr. MACDONALD.—I suppose the whole of that letter had better be noted as put in?

Mr. CHRYSLER.—Yes, the whole letter should go in. Letter filed as

EXHIBIT No. 8.

OFFICE OF THE CHIEF ENGINEER,
OTTAWA, September 24, 1907.

The Commissioners of the Transcontinental Railway.
Ottawa, Ont.

SIRS,—In regard to the situation in District 'F,' I beg to submit my views.

In May, 1906, a contract was let to Mr. J. D. McArthur for the construction of 244 miles from near Peninsula crossing westerly. The rates in this contract were, in my opinion, low, especially for the timber, earth and loose rock, but had the current rate of wages and price of timber remained as they were, no doubt the contractor would have completed the contract with a fair margin of profit.

Owing to the great demand for labour in the west, wages, almost immediately after he took the contract, went up 25 per cent and timber about the same amount. As labour is one of the principal items of expense in a contract of this kind, it naturally follows that the contractor, or his subs., must go behind on such items as he tendered low on, and I have no doubt the statement made—but not by the contractor—that he is losing money on considerable portions of this work is correct, especially so when the poor quality of the labour and the difficulty and cost of securing and retaining it is taken into consideration.

As to classification, this, in my opinion, should be the same whatever the prices in the contract may be, the material moved not being thereby changed.

In regard to rock, there should be no difficulty in arriving at its quantity, except as to the amount outside the regular slopes, which, owing to slips or slides, is unavoidable.

Mixed cuttings, consisting of common excavation, loose rock or cemented material, are much harder to classify, and the resident engineer, who sees the work from day to day and makes the measurements, is in the best position to make a fair classification of same, but there is often a wide difference of opinion between experienced engineers as to such classification, but no rock should be allowed except such as is actually in the cuttings.

Engineers in charge of work where contractors are losing money are in anything but a pleasant situation, but they should not be expected to make their classification different from what it would be were the contractors making money. They are, however, very liable to do so when they know that the estimate does not cover the cost of the work.

The situation in the easterly 190 miles in District 'F' is at present a difficult one, it being imperative that the work should be pushed as rapidly as possible; and in my opinion the use of standard timber trestle in many places would greatly facilitate the construction, but the engineers, knowing that the contractors' prices for such are too low, hesitate to recommend any, but apply for permission to borrow rock (which, in most cases, is the only available material) to make up large embankments. In cases where the bases are on bare rock and in a considerable depth of water, I am prepared to allow such borrow sufficient

to make up a 12-foot bank to grade, or if the grade line is a considerable height above the water, to make up a bank to a height of say two feet above high water and of sufficient width to carry a trestle up to grade, but in very large fills wherever standard trestle can be used it would be a great saving in time and money over filling with rock. I have before me at the present time requests for such borrow at twelve points, covering 216,000 cubic yards of rock, and it is highly probable that the quantities at these points will be considerably increased, and no doubt similar requests will be made for numerous other points. There are numerous other places where temporary trestle might to advantage be used, but as such would have to be filled by the contractor before the opening of the road for traffic, ones of large dimensions should, as far as practicable, be avoided, as the filling takes up considerable time.

As to what is called overbreak in rock cuttings, I find that the returns for July show such to be about 11·6 per cent of the total rock removed, which to me seems exceptionally large, as few, if any, of the cuttings are as yet properly trimmed.

In reviewing the whole situation in District 'F,' I am of opinion that it would be a grave mistake to place the contractor in the position that he would have to abandon the work, as I am satisfied it would in the end cost more money to complete than if it were given some little assistance. Such assistance should not be given by the engineers classifying material other than according to specifications, but might be given by authority from you to increase the prices east of mile 190 for item 5, loose rock; item 6, common excavation; items 23, 24, 25, 26, 27, 28, 29 and 30 in reference to timber; item 74, train-hauled surfacing; and item 75, ballasting; or, failing your being in a position to do so, by instructing me in writing to classify all material other than solid rock, loose or easily worked sand, gravel or muskeg, under the heading of item 5, loose rock, and use rock borrow in place of trestle wherever common excavation for the purpose of making up embankments is not obtainable within a reasonable distance, or to pay for standard trestle at cost plus 10 per cent. Whatever is done, the force on the work should be increased by at least two thousand men.

In regard to a successor to Major Hodgins, I would approve of the appointment of Mr. S. R. Poulin, district engineer, District 'D,' as district engineer 'F,' with Mr. Foss as his assistant, on the understanding that if Mr. Foss is satisfactory he would after the expiration of say three months, take the position of district engineer of District 'F,' and Mr. Poulin would return to his former position in District 'D,' Mr. John Aylen, now Mr. Poulin's assistant, to act for him in District 'D' during Mr. Poulin's absence.

Personally, I feel that matters are so different under a government commission, whose powers are limited by the Act, from what they had previously been under a corporation, who could act on their own initiative and take the responsibility of making such modifications in contracts as now suggested by me in just such difficulties as are now being experienced in District 'F,' that unless some relief can be given, the strain and worry connected with my present position is more than I can stand, especially as the salary is not in proportion to the responsibility involved.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

Then there is another paragraph that perhaps should be noted. If you look at the third paragraph from the end:

'In reviewing the whole situation in District 'F' I am of opinion that it would be a grave mistake to place the contractor in the position that he would

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have to abandon the work, as I am satisfied it would in the end cost more money to complete than if he were given some little assistance.'

A. Yes.

Q. That is true, as you viewed it at the time, that is as far as your judgment went?—A. Yes.

Q. And

'Such assistance should not be given by the engineers classifying material other than according to specifications, but might be given by authority from you to increase the prices east of mile 190 for item 5, loose rock; item 6, common excavation; items 23, 24, 25, 26, 27, 28, 29 and 30 in reference to timber; item 74, train-hauled surfacing; and item 75, ballasting; or failing your being in a position to do so, by instructing me in writing to classify all material other than solid rock, loose or easily worked sand, gravel or muskeg, under the heading of item 5, loose rock, and use rock borrow in place of trestle wherever common excavation for the purpose of making up embankments is not obtainable within a reasonable distance, or to pay for standard trestle at cost plus 10 per cent. Whatever is done, the force on the work should be increased by at least two thousand men.'

Q. Now the statements there were made advisedly and you adhere to them to-day I suppose?—A. Yes, as it was then, but they would not be correct six months after.

Q. Oh, yes, we quite understand that. Before we leave that letter do you want to qualify it in any way except that, as you have said, it would not be true later when the prices of labour went down?—A. No.

Q. Now, the next letter immediately following that; on the 26th of September, Mr. Ryan writes a letter stating that the board have accepted your suggestions.

EXHIBIT No. 9.

OTTAWA, September 26, 1907.

HUGH D. LUMSDEN,
Chief Engineer.

DEAR SIR,—I beg to advise you that the board has approved your recommendation with respect to the appointment of Mr. S. R. Poulin, at present district engineer of District 'D,' as district engineer for District 'F' in the room and stead of Mr. A. E. Hodgins; and that Mr. Foss be appointed his assistant on the understanding that if Mr. Foss, after a trial of say three months, is found capable of taking charge of the district, that he be appointed to the position of district engineer for District 'F' and that Mr. Poulin return to his present position of district engineer of District 'D,' and that during Mr. Poulin's incumbency of the position of district engineer for District 'F,' Mr. John Aylen, at present assistant district engineer of District 'D,' be appointed to act as district engineer for District 'D,' has been approved by the board.

With respect to the other recommendations contained in your letter of the 24th instant reporting in regard to the situation in District 'F,' I am to say that you are clothed with the necessary authority under the Transcontinental Railway Act to deal with all matters of classification, the construction of temporary trestles, or the borrow of rock, &c., &c., and are therefore in a position to proceed with respect to these matters as in your judgment you think best, having in view the completion of the work at the earliest possible date.

The commissioners have not had reported to them any cases of dispute between the contractor and the engineers with respect to the matters referred to in your report.

Yours truly,
P. E. RYAN,
Secretary.

Perhaps, Mr. Lumsden, it might be well, as you are not sure, to refer to that clause of the contract dealing with the question of changes in the contract. We have already got that; I am not sure of the legal effect that it is a matter that extends to that clause 7 of the agreement that was referred to in the beginning of our examination to-day?—A. Yes.

Q. It was provided that the specification for the construction of the Eastern division was to be submitted to and approved of by the company before the commencement of the work, and that such work was to be done according to said specification, so that there was a difficulty at all events in making any change in the specification?—A. Without the consent——

Q. But so far as it was a matter of interpretation that was in your hands without consent——A. Of the government and the Grand Trunk Pacific.

Q. Now, the letters I have just read were dated September 24 and 26, the two letters; on the 7th of October you had a letter from Mr. Woods, making a complaint.

EXHIBIT No. 10.

MONTREAL, QUE., Oct. 7, 1907.

Mr. HUGH D. LUMSDEN,
Chief Engineer, Eastern Division,
National Transcontinental Railway,
Ottawa, Ont.

Classification of Material, District 'B.'

DEAR SIR,—At the request of District Engineer Armstrong, he was furnished recently with a statement of classifications for the heavier work on the above section, which were, when given in detail, so different from his expectations that he requested the writer to visit the work.

During the past week we passed over portions of the work from the Batiscan river west for fifteen or twenty miles, and later from mile 115 to 132.

With reference to the former portion, the classification was given in distances of from three to five miles, and as we did not have total quantities of graduation, could not judge with reference to any particular cutting, although percentages for entire distance seemed excessively heavy in both loose and solid rock.

With the latter portion we had detailed percentage for each cut, and were greatly surprised at the allowances made for solid and loose rock. In nearly every case where the cuttings were not entirely all ledge the estimate given for solid rock is double, or more than double, what it should be. In fact, the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in judgment, but, as I understand, by special instructions from the assistant district engineer.

Let me give you some illustrations:

Take the cutting from stations 5818 to 5826, estimated 71 per cent solid rock and 29 per cent loose rock, slopes taken out 1½ to 1. Very little ledge in this cut. Some large boulders, but a very large percentage is common excavation.

Station 5842 to 5860.—Classified 94 per cent solid rock, 6 per cent loose rock. Slopes taken out 1½ to 1. Solid rock over-classified at least 100 per cent.

Station 5866 to 5875.—Estimated 80 per cent solid rock, 20 per cent loose rock. No rock in place in this cut. Many large boulders, but a large amount of earth.

Station 5882 to 5901.—Estimated 78 per cent solid rock, 22 per cent loose rock. A large amount of this cut wasted with slip scrapers, and ploughing being done with two horses. There are hundreds of yards of earth here without a stone, large or small.

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Station 6030 to 6046.—Estimated 40 per cent solid rock, 10 per cent loose rock. This is the large sand cut west of O'Brien's camp. Of the 95,000 yards moved to August 31 in this cut, at least 80,000 yards was pure sand.

Station 6071 to 6078.—Estimated 99 per cent solid rock, 1 per cent loose rock. Very little solid rock in place. Slopes taken out 1½ to 1.

West of St. Maurice River.

Station 6391 to 6394.—Estimated 46 per cent solid rock, 33 per cent loose rock. Sand cut with few boulders, and possibly 1,500 yards ledge in bottom of cut not yet taken out.

Station 6493 to 6504.—Estimated 20 per cent solid rock, 49 per cent loose rock. No evidence of ledge and very few large boulders; nearly all sand.

Station 6506 to 6512.—Estimated 16 per cent solid rock, 44 per cent loose rock. This is purely a sand cut, with very few boulders. Upper slope nearly 100 feet high, material wasted into river. Certainly not 10 per cent of this should be classified.

Station 6522 to 6548.—Estimated 26 per cent solid rock, 49 per cent loose rock. This is borrowed material from the side. Very little solid rock shown, except what was used for blind drains, but some large boulders not placed in embankment.

On account of heavy rains we were not able to go west of station 6600, but we understand that classification is made about as noted above.

In every case where cuttings are not entirely in ledge we find the material over-classified very largely. Mr. Armstrong has been able to visit this work at different times, perhaps quite as often as the assistant district engineer. His estimate and my own are not very different as to the amount of classified material, and until he received detailed quantities he had no intimation that such heavy classification had been given. In many cases, particularly in sand and gravel cuts, he had supposed that no classification would be given, except perhaps for a few boulders as loose rock.

I am informed also that on the work east of the St. Lawrence river heavy classification is being made in borrowed material where ploughing is done with one team and material moved in slip scrapers.

As before stated, these over-classifications are not made through error of judgment, nor upon the decision of the resident or division engineers, who are fully acquainted with the character of the work, but by arbitrary orders from their superior. To such classification as mentioned above, increasing the cost of work to such an alarming extent, we most seriously protest, and respectfully request that either yourself or the assistant chief engineer visit the work and pass judgment upon the classification as made. Please note that the percentages given above indicate the work done to August 31. We are not advised what the September estimate will show.

Yours truly,
H. A. WOODS,
Assistant Chief Engineer.

Q. I want to ask you as to the action taken in consequence of that letter. There is a letter dated October 18, 1907, from yourself to the commissioners, which refers to it.

EXHIBIT No. 11.

OTTAWA, October 18, 1907.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—Referring to the September estimates in District 'B,' which I now beg to hand you, I may say that from the complaint by the assistant chief engi-

neer of the Grand Trunk Pacific Railway in a letter to me of the 7th instant, and from a verbal statement made to me on the 12th instant, by Mr. Doucet, our district engineer at Quebec, it would appear to me some material may be classified as rock which should be classified otherwise, still as the amount of security held by you for the completion of the work seems to me ample, and the holding back of the estimate at this date without notice to the contractors might be a serious matter, I have approved of these estimates, on the distinct understanding that before any further estimates are passed time be given and a full investigation made into the matter of classification throughout District 'B,' and that my approval of these, or any previous estimate of a similar character, should not prejudice the reconsideration and necessary correction of the classification, and consequently of the amount estimated therefor.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

Now the material on which that letter is based is the complaint of Mr. Woods, which is in writing, and on a verbal statement which you say was made to you by Mr. Doucet. Do you recollect what the statement of Mr. Doucet was?—A. I cannot say that I do.

Q. But your position at the time of writing the letter was that personally you did not know whether the complaint of Mr. Woods was justified or not, but you wanted to approve of the September estimate without finally committing yourself?—A. Not to hold up the work.

Q. That is the object of that letter, and it was the position of your knowledge at the time with regard to District 'B'?—A. Yes.

Q. That was answered immediately by Mr. Ryan in a letter, viz.:

EXHIBIT No. 12.

OTTAWA, October 18, 1907.

HUGH D. LUMSDEN, Esq.,
Chief Engineer.

DEAR SIR,—I beg to advise you that the board has approved your report with respect to your approving the September estimates of work done by contractors in district 'B.'

I am writing to the contractors requesting that they accompany the engineers of the Grand Trunk Pacific Railway Company and of the Commission from Quebec on the morning of the 24th instant to La Tuque; also to the general manager of the Grand Trunk Pacific Company, advising of the action of the Commissioners, and requesting that Mr. Woods and Mr. Armstrong accompany our engineers.

Yours truly,

P. E. RYAN,
Secretary.

A. Yes.

Mr. MACDONALD.—You might ask Mr. Lumsden to tell us at this point whether there were engineers of the Grand Trunk Pacific Railway present at all times accompanying the commission engineers during the course of construction.

By Mr. Chrysler:

Q. Yes, Mr. Lumsden, you might give us that. What was the fact, in the first place, as to the degree of supervision exercised by the Grand Trunk Pacific Railway Company by its engineers over the construction work while it was going on; what organization and engineering staff did they have?—A. Mr. Wood was the assistant

chief engineer, and as far as I know they had just one man in Quebec, that is, for District 'B,' and another man at Winnipeg; Kenora for District 'F'; he may have had a man or two to assist him, I am not sure about that, but there was only one engineer, as far as I know.

Q. That was an engineer in each district?—A. Yes.

Q. But he had no divisional engineers or resident engineers?—A. No.

Q. And was that man's whole time occupied in observing the manner in which the work was being done?—A. I believe they were over the line a good deal.

Q. That was the purpose for which he was employed?—A. Yes.

Q. And had he permission of the commission and of yourself as Chief Engineer to visit the work whenever he would want to?—A. Yes.

Q. And see what was being done?—A. And we furnished him with copies of the evidence.

Mr. MACDONALD.—Are you going through the correspondence?

Mr. CHRYSLER.—Yes. I am going to show you how Mr. Lumsden came to put out that interpretation.

Q. Then, the next letter is historical; it relates what you did in connection with this visit to section 'B'; the letter dated October 30, 1907, which is addressed to the Commissioners of the Transcontinental Railway and is as follows:—

EXHIBIT No. 13.

OTTAWA, October 30, 1907.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—In regard to Mr. Wood's letter to me of the 7th and 8th instant, my letter to you of the 18th instant and the secretary's letter to me of the latter date, I may say that in accordance with the last mentioned letter, I left Quebec, accompanied by yourselves, on the evening of the 24th instant, arriving in the vicinity of La Tuque on the morning of the 25th, accompanied by Mr. Doucet, District engineer; Mr. Grant, inspecting engineer; Messrs. Heustis and Hervey, assistant district engineers; Mr. Bourgeois, division engineer; Mr. Matthews, resident engineer; Messrs. Woods and Armstrong, engineers for the Grand Trunk Pacific; and Messrs. O'Brien and Davis, contractors.

On arrival near the crossing of the Quebec and Lake St. John Railway I, accompanied by the engineers and contractors, walked over a portion of the heaviest work on the line from about mile 117 to 122½. From the division or resident engineer I learned the classification allowed by them in the cuts as we passed through them, and it appeared to me, according to my interpretation of our specifications, that a larger amount of solid rock was returned in them than appearances indicated, and the engineers, in my opinion, returned loose rock or cemented material, where a considerable amount of explosives were used, as solid rock.

An interview was held on the car after our return, at which ourselves, engineers and contractors were present, and from the conversation which took place, and the statements of Mr. Doucet, Messrs. Grant, Heustis and Hervey, confirmed by letters from Messrs. Bourgeois, Matthews and Girdwood, it appears Mr. Woods must have been in error when he stated that 'the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in the judgment, but, as I understand, by special instructions from the assistant district engineer,' or, as stated by him in the latter part of his letter, by arbitrary orders from their superior.

After this interview I requested Mr. Doucet to make a statement, and get statements from the assistant district engineers, and division and resident engineers on this portion of the work of how they interpreted the specifications.

This has been done, and herewith I beg to hand you a letter from Mr. Doucet dated the 26th instant, together with letters to him from Assistant District Engineers Heustis and Hervey, statement from Division Engineer Bourgeois, and letters from Resident Engineers Matthews and Girdwood. I also attach copy of Mr. Doucet's letter of the 21st in reply to Mr. Woods' letter of the 7th instant.

I can only say that I do not concur with the interpretation placed on clauses 34, 35 and 36 of the general specifications by Mr. Doucet or the engineers under him. In my opinion solid rock excavation, clause 34, covers all material that should be classified as solid rock, viz., all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

Loose rock, clause 35: In my opinion this clause covers all large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock, whether in situ or otherwise, that may be removed by hand, pick, or bar; all cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, by being ploughed with a ten inch grading plough behind a team of six good horses, be properly handled, and without the necessity of blasting, although blasting may be occasionally resorted to. The fact that contractors may resort to blasting to a greater extent than the word 'occasionally' may infer, in order to facilitate the removal of such material, would not, in my opinion, convert it into solid rock.

Such being my views, and as stated to you in my letter of the 18th instant, I must decline to certify to any future estimates, except upon classification in accordance with my interpretation of the specifications above mentioned, unless both parties to the contract agree to amend the contract formally, with due concurrence of the government, or until the estimates are corrected to conform with my interpretation. In any event, I ask that this correspondence be at once submitted to the government.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

Q. Now, in this letter you refer in the fourth line to the fact that you left Quebec 'accompanied by yourself,' and further on you say, 'an interview was held on the car after our return, at which ourselves, engineers and contractors were present.' What do you mean by 'yourselves' and 'ourselves?'—A. The Commissioners.

Q. Which members of the Commission were present?—A. They were all there, I think, the four Commissioners.

Q. All the members of the Commission at that time?—A. Yes.

Q. The first matter of fact that you referred to in that letter, your judgment, is in the second paragraph, 'it appeared to me, according to my interpretation of our specifications, that a larger amount of solid rock was returned in them than appearances indicated, and the engineers, in my opinion, returned loose rock or cemented material, where a considerable amount of explosives were used, as solid rock.' Have you anything to add to that?—A. No, that was my opinion at the time.

Q. Have you changed it?—A. No.

Q. That is your opinion still, from the appearance of the matter as you saw it then?—A. Yes.

Q. The next matter of fact is that you satisfied yourself that Mr. Woods was in error when he stated that 'the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in the judgment, but, as I understand, by special instructions from the assistant district engineer?'—A. Yes, the district engineers were questioned about it, and they said it was not.

Q. Then if you thought that the resident engineers were in error in their classifi-

cation at the time, what was your judgment as to the source of that error? If it was not under instructions from the assistant district engineer, what was the cause of it?—A. He may not have instructed them at all.

Q. It might have been lack of instruction?—A. Naturally they ought to have consulted with me as to the classification—or the district assistant might not have—but the divisional engineer.

Q. Otherwise you satisfied yourself at the time that the assistant district engineer was not instructing them wrongly; that he may have failed to instruct?—A. That he may have had orders to do so.

Q. Then the next matter was the discussion as to the meaning of the specifications, and you say here: 'I do not concur with the interpretation placed on clauses 34, 35 and 36 of the general specifications by Mr. Doucet or the engineers under him;' and you give your own judgment as to the meaning of those sections which later on, as we will see, you followed up by issuing an official interpretation?—A. Yes.

Q. And you also requested Mr. Doucet, as it appears here, to ascertain——A. That was in the paragraph before.

Q. (Reading): 'I requested Mr. Doucet to make a statement, and get statements from the assistant district engineers, and division and resident engineers on this portion of the work, of how they interpreted the specifications.'

Was that done?—A. Yes, I think the correspondence follows after that.

Q. And it was in consequence of the suggestion that you made at that time that those replies from the division and resident engineers were obtained?—A. Yes.

Q. Mr. Smith wants to ask you where those exhibits are containing the answers of the divisional and resident engineers?

Mr. SMITH.—With which you disagreed?—A. There is a letter from Mr. Huestis to Mr. Doucet, and one from Mr. Hervey to Mr. Doucet, and one from Mr. Girdwood to Mr. Hervey.

Mr. MOSS.—Mr. Hervey's letter is not about that, is it?

Mr. CHRYSLER.—I think you had better leave that until it comes to its place; it interrupts the thread of it. They are all here; you can get them identified easily.

Q. Then the next step in your proceedings was the letter of November 11 which is from yourself to the commissioners?—A. Yes.

EXHIBIT No. 14.

OTTAWA, November 11, 1907.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—In regard to the contractors' estimates for October and your request that I will approve of same, as owing to the absence of the Minister of Railways and his deputy from Ottawa, it may be impossible to have my letters of the 18th and 20th of October and correspondence attached submitted to the government and action taken thereon before the middle of this month, when such estimates should be paid to the contractors, and, as stated in mine of the 18th of October, the holding back of the estimates at this date without notice to the contractors might be a serious matter, I would be prepared to approve of the October estimates, provided it is distinctly understood, as already requested in mine of the 30th October, that no further delay takes place in submitting my letters of the 18th and 30th of October and attached correspondence for consideration of the government, so that the whole matter may be definitely dealt with before the estimates for November come in.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

Q. I suppose the object of writing that letter is apparent on its face?—A. I wanted to notify the government that there was a difference of opinion between the Commissioners, the district engineer and myself.

Q. And that provisionally the estimates for November might be paid?—A. Yes.

Q. Then there is a letter from the secretary of the Board to the Minister of Railways, which is the submission to the government of the material—correspondence and so on—with regard to this question?—A. Yes.

EXHIBIT No. 15.

OTTAWA, November 23, 1907.

SIR,—I have the honour by direction of the Board to hand you herewith the correspondence relating to a complaint made to our chief engineer by the assistant chief engineer of the Grand Trunk Pacific Railway with respect to the classification under our specifications for construction in district 'B.'

As the correspondence will show, the complaint of the Grand Trunk Pacific engineer has resulted in revealing for the first time since construction started this difference between the chief engineer of the commissioners and his staff with respect to the interpretation of the clauses of the contract relating to classification.

Paragraph 7 of the agreement, being the schedule to the National Transcontinental Railway Act, 3 Edward VII., provides that in case the chief engineer of the company and our chief engineer differ as to the work, the differences in dispute shall be determined by arbitration. This, however, is not a case of difference between the chief engineer of the company and the chief engineer of the commissioners, but is, rather, a difference between Mr. Lumsden and his staff, as indicated in the documents annexed hereto.

Although the complaint of the Grand Trunk Pacific engineer specifically relates to certain cuttings on McDonnell and O'Brien's contract, the whole work will be affected by the interpretation of paragraph 34 of the specifications. Accordingly, both our contractors in district 'B' have been officially notified of the interpretation placed by our chief engineer upon paragraph 34 of the specifications, and their replies contesting the interpretation of our chief engineer are included in the correspondence which accompany this letter.

The commissioner's interpretation of paragraph 34 of the general specifications for construction agree with that of the district engineers for districts 'B,' 'C' and 'F,' and, ordinarily, they would have so ruled; but Mr. Lumsden, as an appointee of the government, has requested that the government give their ruling as to the interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction, and the commissioners herewith submit the whole matter for such ruling.

According to the report of District Engineer Doucet, dated the 16th instant (copy attached), the amount involved in the complaint of the engineer of the Grand Trunk Pacific Railway is only $3,547 for the months of July and August last, i.e., if the interpretation of our chief engineer is correct, all preceding estimates having been approved by him without objection. On the interpretation placed on clauses 33, 34, 35 and 36 of the specifications much larger amounts will be involved for the future, however, and as the chief engineer of the commisssioners has refused to approve further estimates of the contractors until the ruling of the government as to the interpretation to be placed upon these clauses of the specifications has been received, the commissioners respectfully request that this ruling be given at the earliest possible day.

I have the honour to be, sir,
Your obedient servant,

Hon. Geo. P. GRAHAM, P.C.,
Minister of Railways and Canals, Ottawa.

P. E. RYAN,
Secretary

Mr. LUMSDEN.

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Q. Now, is there anything in that letter that you do not agree with?—A. Well, the only thing, I have no recollection of asking him for a ruling, for anything more than to submit the correspondence to the government so that they would be aware that there was a dispute. I don't remember asking for a ruling from the government.

Q. At all events your letter of the 11th November has been put in, in which you ask that no further delay take place in submitting your letters of the 18th and 30th of October and attached correspondence for the consideration of the government?—A. Yes.

Q. A different point of view, perhaps, but that is the way you put it. Mr. Ryan says you requested a ruling. You had not requested a ruling otherwise than by that letter?—A. Not that I know of.

Q. Then the differences between you apparently we need not inquire into—that is the difference between you and the district engineers of Districts B, C and F, because they will appear—so this letter says—from the statements of the district engineers?—A. I presume so.

Q. As to their view and yours?—A. Yes.

Q. Now, that action was followed by the return of the whole of the correspondence by the minister in the letter from the Minister of Railways and Canals to the Chairman of the Transcontinental Railway, dated December 5, 1907?—A. Yes.

EXHIBIT No. 16.

OTTAWA, December 5, 1907.

SIR,—In reply to your letter of the 23rd ultimo, with which you transfer certain reports of the chief engineer of the commission bearing upon the classification of the work under the charge of the commissioners.

It would seem that under chapter 71, section 9, 3-Edward VII., the construction of the Eastern division is to be under the charge and control of three commissioners; subsequently amended by chapter 24, section 11, 4-Edward VII., making four commissioners, who are constituted a body corporate, with full powers to carry on the work in connection with the construction of the eastern division of the National Transcontinental Railway.

Section 10 of chapter 71 gives the authority for the appointment of a chief engineer, who, under instructions from the commissioners, and subject to the provisions of the agreement, shall have general superintendence of the construction of the Eastern division.

It, therefore, seems to me that full power has been vested in the commissioners and their chief engineer to carry on the work in such a way as to them seems best; and, under the specifications and form of contract, which has already received the approval of the government, the duties of the chief engineer are fully set forth. I can only, therefore, refer back to your commission the whole of the papers bearing upon the question, with the request that you should take such action as seems to you necessary under the circumstances.

Yours faithfully,

GEORGE P. GRAHAM,

Hon. S. N. PARENT,
Chairman Transcontinental Railway,
Ottawa, Ont.

Q. Now, what happened next? What appears here is a report by yourself dated December 16, 1907, submitting your interpretation. That was afterwards changed; you eventually put them both in, I think?—A. Yes.

EXHIBIT No. 17.

OTTAWA, December 16, 1907.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—I beg to submit the following as my interpretation of clauses 34, 35 and 36 of the general specifications:—

CLAUSE 34—SOLID ROCK EXCAVATION.

'Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.'

I am of the opinion that rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum-pudding stone), boulders or ledge rock displaced (in pieces each exceeding one cubic yard in size), rock assembled (the individual pieces of such assembled rock exceeding one cubic foot in size), also shale rock, such as in the judgment of the engineer may be best removed by blasting.

I attach a diagram in explanation of the above, which in my opinion, is all that is included under clause 34—solid rock.

CLAUSE 35—LOOSE ROCK.

'All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials that cannot in the judgment of the engineer, be ploughed with a 10-inch grading plough, behind a team of six good horses properly handled; and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as loose rock.'

Under this heading I would include:

(1) All large stones and boulders more than one cubic foot and less than one cubic yard not covered under clause 34.

(2) All loose rock in situ or otherwise that may be removed by hand, pick or bar, and not covered under clause 34.

(3) All cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, be ploughed with a 10-inch grading plough behind a team of six good horses properly handled; and without the necessity of blasting, although blasting may be occasionally resorted to.

CLAUSE 36—COMMON EXCAVATION.

'Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.'

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

P.S.—This interpretation was made by me after consulting with Mr. Collingwood Schreiber, consulting engineer to the government. I would be pleased to know the opinion of the Minister of Justice on the legal aspect.

HUGH D. LUMSDEN,

Q. The amended specification which we will refer to presently is printed on page 159; and I understand, Mr. Lumsden—it will shorten it if you permit me to say

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so for you—that the change is the omission of the words in the second paragraph: 'the individual pieces of such assembled rock exceeding one cubic foot in size, also shale rock.' Those words you afterwards omitted; is that right?—A. No, not shale rock; I think that is still in; all shale rock is still in. 'In pieces each exceeding one cubic yard in size' was omitted.

Mr. MACDONALD.—The phraseology is changed: 'rock assembled' instead of 'pieces of such assembled rock.'

Mr. CHRYSLER.—Yes, 'rock assembled' is moved to the front. The words omitted are 'the individual pieces of such assembled rock exceeding one cubic foot in size.' Then also in the postscript you say, 'This interpretation was made by me after consulting with Mr. Collingwood Schreiber, consulting engineer to the government.' That is correct?—A. Yes. There is another change in that last interpretation, and that is the omission of the words, 'not covered under clause 34.'

Q. That is, if we are reading from Exhibit No. 17, you have omitted the words, 'not covered under clause 34,' in paragraphs (1) and (2)?—A. Yes.

Q. Then the reason why you made that change was what?—A. A letter from Mr. Newcombe, Deputy Minister of Justice.

Q. And we have a letter from Mr. Newcombe, dated January 6, 1908?—A. Yes.

Mr. MACDONALD.—You might say, in order to have Exhibit No. 18 in, that this opinion of Mr. Newcombe's was given as a result of the reference submitted to him.

Mr. CHRYSLER.—That is marked Exhibit 18 in this volume.

EXHIBIT No. 18.

OTTAWA, December 20, 1907.

The Hon. A. B. AYLESWORTH, P.C.,
Minister of Justice,
Ottawa.

SIR,—I have the honour, by the direction of the Board, to submit to you herewith all correspondence relating to a complaint made to our chief engineer by the assistant chief engineer of the Grand Trunk Pacific Railway with respect to the classification under our specifications for construction in District 'B,' and to the interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction.

You will note that:

(*a*) The complaint of the Grand Trunk Pacific engineer referred to is contained in a letter of Mr. H. A. Woods, assistant chief engineer of the Grand Trunk Pacific Railway, dated October 7 last, and addressed to our chief engineer;

(*b*) The engineers of the Grand Trunk Pacific Company and of the commission, and the representatives of the contractors in District 'B,' met in Quebec on the morning of the 24th of October, and proceeded to La Tuque, for the purpose of investigating on the ground the complaint of the assistant chief engineer of the Grank Trunk Pacific Railway with respect to classification.

(*c*) The chief engineer reported to the commissioners under date of October 30, the result of the said investigation held on the ground; stated his interpretation of clauses 34 and 35 of the specifications, and submitted the interpretation of the district engineer of District 'B,' and his assistants, indicating a disagreement between the chief engineer and his staff with respect to the interpretation of the clauses of the specifications relating to classification.

(*d*) Under date November 13, the chief engineer submitted to the commissioners the interpretation of District Engineers Dunn, Molesworth and Poulin of clauses 34, 35 and 36 of the general specifications for construction.

(*e*) Under date, November 14, the commissioners submitted to the contractors in District 'B' a copy of a letter of the chief engineer, dated October 30

ultimo in which he (the chief engineer) stated his interpretation of the clauses of the contract relating to classification;

(*f*) The contractors submitted legal opinions contesting the chief engineer's interpretation of the clauses of the specifications relating to classification;

(*g*) Under date November 23 ultimo, the Commissioners submitted to the government, in compliance with the request of the chief engineer, all the correspondence relating to this matter, for a ruling as to the interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction;

(*h*) The Hon. Minister of Railways and Canals wrote to the Chairman of the commission under date of December 5 referring back to the commissioners all the papers bearing upon the question, with an expression of opinion that full power has been vested in the commissioners and their chief engineer to carry on the work in such a way as to them seems best, and the request that such action should be taken as to them seems necessary under the circumstances.

(*i*) A copy of all the correspondence was submitted to the chief engineer of the commission under date, December 6 instant, for his consideration;

(*j*) The chief engineer reported to the commissioners under date, December 16 instant, submitting a modified interpretation of clauses 34, 35 and 36 of the general specifications for construction, and stating that he would be pleased to know the opinion of the Minister of Justice on the legal aspect.

The commissioners accordingly herewith submit all the correspondence with respect to this matter, and request that you will favour them with your interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction, a copy of which accompanies this letter, at the earliest possible delay.

I have the honour to be, sir,
Your obedient servant,

P. E. RYAN,
Secretary.

Mr. MACDONALD.—And Mr. Newcombe's reply is Exhibit No. 19, and your amended interpretation is dated January 9, 1908?—A. Yes.

EXHIBIT No. 19.

OTTAWA, January 6, 1908.

The Secretary to the Commissioners,
National Transcontinental Railway,
Ottawa.

SIR,—Referring to your letter of the 20th ultimo, with which you submit correspondence with regard to the classification of excavated material and the interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction of the Eastern Division of the National Transcontinental Railway, I have the honour to state that upon consideration of the papers submitted I see no reason to differ from the classification stated by the chief engineer in his letter to the commissioners of the 16th ultimo, except as to the statement that 'rock assembled (the individual pieces of such assembled rock exceeding *one cubic foot* in size) . . . such as in the judgment of the engineer may be best removed by blasting,' is to be classified as solid rock excavation under clause 34. I do not understand upon what principle the chief engineer limits the size to pieces exceeding one cubic foot. The specification speaks of rock found in ledges or masses of more than *one cubic yard* which in the judgment of the engineer may be best removed by blasting. If 'rock assembled' may be regarded as a mass of rock, and if it may be best removed by blasting, I do not see why under the specification it is material whether the individual pieces exceed or are less

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than one cubic foot in size, and if 'rock assembled' is not regarded as a mass, the minimum limit of size which can be classified as solid rock exceeds one cubic yard.

It seems to me, however, that these questions are largely engineering questions, the solution of which depends principally upon the judgment of the engineer, having regard to the terms used in the specifications.

I must call your attention to clause 15 of the contract, which provides that the engineer (this term to be construed as defined in clause 2 of the contract) shall be sole judge of work and material, and that his decision on all questions in dispute with regard to work and material shall be final, thus expressly stipulating that such questions as these shall be submitted to the decision of the chief engineer.

I wish to add that it is very difficult for me to advise generally upon the interpretation of these specifications, and a general ruling may not infrequently overlook the peculiar facts and circumstances of an individual case which if stated might lead to an exception or modification. I would prefer to advise upon any special case as it may arise, having all the particulars and circumstances stated.

Papers returned herewith.

I have the honour to be, sir,
Your obedient servant,
E. L. NEWCOMBE,
Deputy Minister of Justice.

EXHIBIT No. 20.

OTTAWA, January 9, 1908.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—I have to-day been handed by the secretary a copy of a letter from the Deputy Minister of Justice, dated the 6th instant, with respect to my interpretation of clauses 33, 34, 35 and 36 of our general specifications. After fully considering his remarks in regard to the words after 'rock assembled' (the individual pieces of such assembled rock exceeding one cubic foot in size), I have concluded in deference to his remarks these bracketed words might be omitted, as also the words 'not covered under clause 34' in items 1 and 2 under the heading 'loose rock.'

My interpretation of these clauses will now be as follows:—

CLAUSE 34—SOLID ROCK EXCAVATION.

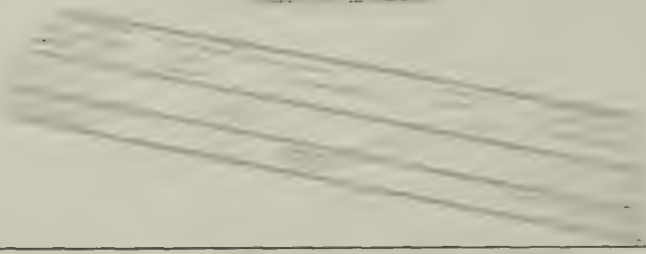
'Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which in the judgment of the engineer may be best removed by blasting.'

I am of the opinion that rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum pudding stone), boulders or ledge rock displaced (in pieces each exceeding one cubic yard in size), rock assembled, also shale rock, such as in the judgment of the engineer may be best removed by blasting.

I attach a diagram in explanation of the above, which, in my opinion, is all that is included under clause 34—solid rock.

CLAUSE 35—LOOSE ROCK.

'All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock, whether in situ or otherwise, that may



be removed by hand-pick or bar, all cemented gravel, indurated clay or other materials that cannot in the judgment of the engineer be ploughed with a ten-inch grading plough behind a team of six good horses properly handled, and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'loose rock.'

Under this heading I would include:

(1) All large stones and boulders more than one cubic foot and less than one cubic yard.

(2) All loose rock in situ or otherwise that may be removed by hand-pick or bar.

(3) All cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, be ploughed with a ten-inch grading plough, behind a team of six good horses properly handled and without the necessity of blasting, although blasting may be occasionally resorted to.

CLAUSE 36—COMMON EXCAVATION.

'Common excavation will include all earth, free gravel or other material of any character whatever, not classified as solid or loose rock.'

This interpretation was made by me after consulting with Mr. Collingwood Schreiber, consulting engineer to the government.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.

By Mr. Chrysler:

Q. Along with that you issued a diagram?—A. Yes. (Exhibit No. 20a.)

Q. And that interpretation and the diagram were circulated, were they?—A. Yes, sent to different engineers.

Mr. MACDONALD.—Did Mr. Lumsden, at the time he published those amended specifications on January 9, 1908, have before him the opinions of Sir Alexander Lacoste, Mr. Shepley, Mr. Lafleur, Mr. Beaudin, Mr. Nesbitt and Mr. Macmaster?

WITNESS.—I believe I had.

Mr. CHRYSLER.—Those opinions and the protests of the contractors were on the file which you had before you?—A. I believe I saw them all. I had seen them all. I think I have read them all.

EXHIBIT No. 21.

OTTAWA, January 30, 1908.

A. E. DOUCET, Esq.,
District Engineer, Quebec.

DEAR SIR,—Herewith please find copy of my interpretation of clauses 34, 35 and 36 of our general specifications, together with a blue print diagram in explanation of same. These after having been submitted to the Justice Department, have been approved by the commissioners.

You will please at once go over these carefully, and say whether the classification in your district conforms to such interpretation. If it does not, steps must at once be taken by you to have your division and resident engineers, who are personally acquainted with the work, take up the matter, and as far as now practicable, have an estimate prepared showing the difference such classification would make with that which has heretofore been used by you. In future all classification must be in conformity with my interpretation. Measurements must be made and full notes be kept showing such classification on cross sections where rock or other classified material is met with in large quantities, or by measurements

made by an assistant, of rock or loose rock in boulders. In short, actual measurements shall be made of all classified material returned, and not by percentages, except in cases where measurements are impracticable in the judgment of the engineer in charge.

Yours truly,

HUGH D. LUMSDEN.

Q. Then, the interpretation, and the diagram (Exhibit No. 20a) illustrating it were distributed or sent to the district engineer; there is the above letter to Mr. Doucet (Exhibit No. 21) stating that you had made the interpretation which, together with a blue print diagram in explanation of same had been submitted to the Department of Justice and had been approved by the Commissioners; and the purpose for which you sent it to Mr. Doucet is stated here, 'You will please at once go over these carefully and say whether the classification in your district conforms to such interpretation,' and your instructions follow; so these were new instructions?—A. Yes.

Q. Sent out at this date, January 30, 1908; well, did you regard this document—putting an interpretation on the specifications—as making any change in the specifications?—A. Well, there is a slight change between what I——

Mr. Moss.—Excuse me——

The Chairman.—What is your question, Mr. Chrysler?

Mr. Chrysler.—Did he regard his interpretation as making a change in the specifications?

Mr. Moss.—I hardly think we are concerned with that. Mr. Lumsden is making this charge against the engineers. It is not a question of what was in his mind; it is what he did that is important here.

Mr. Macdonald.—I think we had better allow the question.

Mr. Moss.—Very well, sir.

Mr. Macdonald.—Having regard to what he did, does not the language speak for itself?

Mr. Chrysler.—It has this bearing: in this letter of January 30 he says the engineers are in future to classify in conformity with his interpretation. I was going to ask him what had happened up to this time.

Mr. Moss.—There must be the interpretation as communicated to the engineers, I suppose, not as dwelling in his own mind.

Mr. Macdonald.—The issue is as to the interpretation of the interpretation.

Mr. Chrysler.—Perhaps it is not important.

Mr. Macdonald.—We don't want to restrict you in any way at all.

The Chairman.—I think you had better go ahead and ask the question if you think it is necessary, if you think it is useful.

By Mr. Chrysler:

Q. What do you say, Mr. Lumsden?—A. To what?

Q. Did you regard this as being a change in the specifications?—A. No, I did not regard that I made any change in the specifications.

Q. Then you had before issued such particular instructions as to the manner in which the work was to be done as you did in this letter of the 30th January?—A. No, I don't recollect of any written instructions prior to the 9th January, but there certainly was a good deal of verbal conversation.

Q. Who was that verbal conversation with? What would be the occasion of it?—A. In that visit to section B.

Q. In October, 1907?—A. Yes, the visit to La Tuque.

Q. Had you ever similarly visited District F prior to January, 1908, I mean?—A. Yes, I have been on pieces.

Q. Had you there yourself given instructions to the engineers?—A. I cannot say definite instructions. I know I talked over classification with them a good deal.

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Q. On District F as well as District B?—A. Yes.

Q. Prior to January, 1908?—A. Yes.

Q. Have you a recollection of interviews with any of the engineers? Of course we have. I suppose, Major Hodgins' case already developed in this book. I do not want to go into this case, that was all dealt with in the former inquiry?—A. Yes, sir.

Q. Would it be with Major Hodgins' case? We will set that aside. That is what you have in your mind?—A. It was with Major Hodgins.

Q. And Mr. Poulin succeeded him, as we have seen, some time in October, 1907?—A. I think so.

Q. And you had not been on the work?—A. I do not think I was on the work from October to January.

Q. October, 1907, to January, 1908?—A. Yes.

Q. Then I just want to refer to a letter of the 14th January, 1908, from the secretary of the commission to you, advising you that your letter of the 9th instant, giving your interpretation of clauses 33, 34, 35 and 36 was considered by the Board on the 10th and approved?—A. Yes.

Q. So that your recommendation as we have it here was approved by the Board on the 10th of January?—A. On the 10th of January.

Q. There is a letter which perhaps I should refer to, to Mr. Doucet, which accompanied the longer letter also on the 30th of January.

EXHIBIT No. 22.

OTTAWA, January 30, 1908.

A. E. DOUCET, Esq.,
District Engineer, Quebec.

DEAR SIR,—In regard to my letter to you of the 14th instant, I beg to substitute the accompanying letter, as I have taken into consideration that some instances may be met with where actual measurements are impracticable, but it must be understood that actual measurements (a record of which are kept, either by cross sections or by measurements) must be made as a rule of all work, and if at any time you find it necessary to put on an extra man for this purpose you can do so.

Yours truly,

HUGH D. LUMSDEN.

Q. What is the object of that letter?—A. The previous letter to the one that immediately follows that was sent, in which those words were not embodied in the end of it.

Q. Are we to read those two letters together to Mr. Doucet as entitling you——A. Exactly. They were both sent the same date.

Q. And the upper one is embodied in the lower one, is it?—A. Yes.

Q. Except 'where actual measurements are impracticable.'—A. Those words were put in the second letter, which were not in the first one.

Q. Now, we have got to the end of January. 1908. What followed that? What was the next trouble you had about classification. What is the complaint or difficulty?

There was a letter from Mr. Woods to you on the 21st of April, 1908. There are two letters, one of the 21st April. Is that the first, Mr. Lumsden?—A. On the 21st April?

Q. Yes. There is one of the 30th March and the other of the 21st of April. The one of the 30th March refers to overbreak.—A. Yes.

Q. The first letter from you that I see—perhaps that will get us to the point I want. The first letter I find is a letter of the 24th of April stating that you submit three letters received from Mr. Woods, Assistant Chief Engineer of the Grand Trunk Pacific Railway, in which he takes exception to the classification on about 153 miles on

District F, and gives a list of 196 points at which classification is claimed to be excessive. This letter reads as follows:—

EXHIBIT No. 23.

OTTAWA, April 24, 1908.

The COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY,
Ottawa, Ont.

SIRS,—I beg to submit three letters received from H. A. Woods, Assistant Chief Engineer of the Grand Trunk Pacific Railway, the first dated the 21st inst., in which he takes exception to the classification on about 153 miles of District 'F' and gives a list of 196 points at which the classification is claimed to be excessive; the second letter, dated the 23rd instant, in which he objects to the classification generally in District 'B,' east of the St. Lawrence river, and especially mentions five cuttings at various points and also refers to the classification in borrow pits between miles 15 and 23; the third letter is dated March 24, and in this he makes a general complaint as to the classification in both Districts 'B' and 'F,' but gives no definite points at which these objections are raised.

As he has now taken objection in a definite form to our classification in both Districts 'B' and 'F,' and as, in my opinion, these are questions which it was intended should be settled under the agreement made between you and the Grand Trunk Pacific on January 10 last, in conformity with Clauses 7 and 4, Chap. 71, 3 Ed. VII, I am writing Mr. Woods to appoint a day at as early a date as possible where we could have a conference either here or in Montreal so as to arrange dates for arbitrating the points in dispute promptly and for the appointment of the third arbitrator.

HUGH D. LUMSDEN,
Chief Engineer.

Mr. CHRYSLER.—The second letter is recited and the third letter, and this is your suggestion as to the action to be taken:—

As he has now taken objection in a definite form to our classification in both Districts 'B' and 'F,' and as, in my opinion, these are questions which it was intended should be settled under the agreements made between you and the Grand Trunk Pacific on January 10 last in conformity with Clauses 7 and 4, Chap. 71, 3 Ed. VII, I am writing Mr. Woods to appoint a day at as early a date as possible where we could have a conference either here or in Montreal so as to arrange dates for arbitrating the points in dispute promptly and for the appointment of the third arbitrator.

A. Yes.

Q. The letters are the letters previously printed here, and your recommendation was that you should meet Mr. Woods and arrange for appointing a third arbitrator and proceeding with the arbitration under the provisions of the agreement.—A. Yes.

Mr. Moss.—Don't you think these letters should follow in; Mr. Wood's three letters?

Mr. CHRYSLER.—They do not affect my narrative of what Mr. Lumsden is dealing with. They may be material evidence, but at present I want to know what his action was and why he took it.

Q. Then did you get a meeting with Mr. Woods?—A. Yes, I believe I did meet Mr. Woods, or I was to meet Mr. Woods, and something prevented me the first time and I think I got a letter from Mr. Woods suggesting that before we took any proceedings we should go and visit the work.

Q. Is that letter printed here? Perhaps it is not.—A. I am not sure.

Q. Well, perhaps if we go on to this letter of the 8th October, we will get the sum of the whole thing. It is as follows:—

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EXHIBIT No. 24.

OTTAWA, October 8, 1908.

The COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY,
Ottawa, Ont.

SIRS,—On July 22 last, I wrote to Mr. H. A. Woods, Assistant Chief Engineer of the Grand Trunk Pacific Railway, stating that I could not agree with him re classification, and suggesting the names of the following as a third arbitrator under clauses 7 and 4 of the agreement in 3rd Ed. VII., Chap. 71.

HENRY MCLEAN, C.E., Ottawa, Ont.
WM. MCCARTHY, C.E., Winnipeg, Man.
T. E. HILLMAN, C.E., Hamilton, Ont.

To this I have had no definite reply, though on July 28, August 18 and September 10, I have asked for same by letter or wire, and verbally on October 5.

I am given to understand that Mr. Morse is at present in the west, but suggest that if this matter is not settled immediately after his return, application be made to Chief Justice of the Supreme Court of Canada to appoint the third arbitrator in accordance with clause 4 of the agreement above referred to, so that disputes may be settled promptly and not held over until the contracts are completed.

HUGH D. LUMSDEN,
Chief Engineer.

In the meantime you had visited the work with Mr. Woods?—A. Yes, portions of it.

Q. Where had you gone?—A. A portion in District F, on Wabigoon river.

Q. East or west?—A. West from Wabigoon river to a big lake—Canyon lake.

Q. How many miles? I suppose that would be about 30?—A. 25 miles, I think; something like that.

Q. Had you examined the points? I suppose there were points upon a portion of the work corresponding with these stations which are mentioned in Mr. Woods' letter of complaint, and which are printed here in pages 8 and 9 of this return?—A. I think so.

Q. What action did you take?—A. I took no action with Mr. Woods.

Q. Did you see any of the engineers?—A. Yes.

Q. Whom did you see?—A. I saw Mr. Bell and Mr. McIntosh, I think.

Q. What does Mr. McIntosh do?—A. Mr. McIntosh at that time was division engineer.

By Mr. Smith, K.C.:

Q. For whom?—A. Division engineer.

Q. For the commissioners?—A. Yes.

By Mr. Moss:

Q. I did not catch what you say there, Mr. Lumsden?—A. Mr. McIntosh was division engineer and Mr. Bell was resident engineer at Wabigoon river, if I remember right.

By the Chairman:

Q. You mean that you saw them?—A. Yes; I drove over the work with one or the other of them.

By Mr. Chrysler:

Q. What was the discussion that took place on this occasion? Were there complaints made by Mr. Woods as to over-classification?—A. Yes.

Q. Do you remember any of the details of it?—A. No, I cannot remember the details of it. I remember there were several cuttings in which they complained of excess of rock or returns of rock.

Q. Are those cuttings which you have mentioned in your list that you gave the other day?—A. The cuttings were not finished at the time I refer to.

Q. They were cuttings under construction?—A. Some of them. The work was in progress.

Q. When were they finished?—A. They were not finished until, I think, the spring of 1909. Some of them were finished and some were not.

Q. Did you give Mr. McIntosh and Mr. Bell any instructions at the time?—A. I know I questioned them about their measurements of rock, and the answers were not satisfactory; and I took it up afterwards with Mr. Poulin.

Q. That was in 1908; in what month?—A. I think June, 1908.

Q. Then did you visit 'B' with Mr. Woods?—A. I visited a portion of 'B' east of the St. Lawrence river.

The CHAIRMAN.—Perhaps before we get to that district we had better adjourn until to-morrow; it is only a quarter to six.

The committee rose.

THURSDAY, March 10, 1910.

The committee resumed at 8.10 p.m., the Chairman, Mr. Geoffrion, presiding.

The examination of Mr. Lumsden resumed.

By Mr. Chrysler:

Q. I was asking you, Mr. Lumsden, when the committee rose about a visit of inspection that you made to section B in company with Mr. Woods?—A. You were asking me about a trip to District 'F' I remember.

Q. I think that after visiting 'F' you and Mr. Woods went down to District 'B' and examined some part of it.—A. East of the river, the St. Lawrence river.

Mr. MACDONALD.—East and south.

The WITNESS.—East and south.

By Mr. Chrysler:

Q. East and south of the St. Lawrence river and there is a letter to you which I understand referred to that visit; a letter dated 8th July, 1908. We need not trouble to look at that if it does not refer to any part of District 'B' west of the St. Lawrence. Will you just look and see whether it does.

Mr. MOSS.—That is Mr. Wood's letter.

Mr. CHRYSLER.—Yes, Mr. Wood's letter. I do not know that it appears on its face but Mr. Lumsden tells me that that is the case. Unless there is something perhaps in the last clause which you spoke of which is general. (Reads):

> As matters stand to-day, none of our objections have received serious attention, or at least no apparent change has been made in estimates as returned since September last. Some of the sub-contractors have finished their contracts and others will soon complete their work. We object to their being paid upon estimates as returned, and therefore desire to know with the least possible delay, what action you propose in the matter.

Mr. LUMSDEN.

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Q. That may be general in its application?—A. It may be.

Q. Did you understand it so?—A. He mentions in the third clause from the end in this letter that this question of classification has been under discusion.

Q. Yes, that is general also probably. We will read that. That is the third paragraph from the end. (Reads):

> This question of classification has been under discussion since early in October last. You have now seen the different parts of the work in progress both east and west of the St. Lawrence river on Section 'B,' also at different places on District 'F,' where objections have been made to the classification as rendered by your assistants, and are therefore, in a position to know whether our objections are valid.

Q. Whatever preceded the reference to particular circumstances set out in the letter refers to all——A. All east and south of the river.

Q. That is not referred to in your letter.—A. No.

Mr. MACDONALD.—Nor in his statement to this committee.

Mr. CHRYSLER.—The letter is printed here, and I have read all that is material.

Mr. MACDONALD.—We had better take the letter so as to know just what the issue is.

Mr. CHRYSLER.—The letter is as follows:—

EXHIBIT No. 25.

MONTREAL, QUE., July 8, 1908.

Mr. HUGH D. LUMSDEN,
Chief Engineer,
Eastern Division, National Transcontinental Railway,
Ottawa, Ont.

DEAR SIR,—Referring to our recent visit to the work on District 'B' east of the St. Lawrence river, our examination of classification as rendered at points visited, and our conversation regarding same, I hope to repeat in writing what I stated to you verbally: that we still vigorously protest to the classification as returned to date. For example:

The first cut we visited, station 7135 to 7142. Gravel cut with little or no ledge. Classification returned 7,900 yards solid rock, 12,100 yards of loose rock.

Station 7146 to 7150. Returned 13,000 yards solid rock, 9,200 yards loose rock.

These are loose rock cuttings containing many large boulders. My judgment is that the solid rock returned is double what it should be, 25 per cent being a liberal allowance.

The cuts, stations 7164 to 7167 and 7167 to 7170, are also heavily classified. Quite a large portion of the west end of these cuts should be returned as common excavation.

The gravel cut on stations 7175 to 7182 is returned as 8,000 yards loose rock and 12,000 yards common excavation. This is purely gravel cut. There may have been a few small stones, which, if found in sufficient quantities might be termed loose rock, but certainly not more than 10 per cent at the outside. Classified as 40 per cent loose rock at present.

I am a little surprised in this, as in other cases, how any engineer could conceive of classification as returned unless the work was done in frost, and even this, in these cuts, should not change classification.

Stations 7085 to 7104. Classified, 7,200 yards solid rock, and 9,500 yards loose rock. With the utmost liberality I cannot see where over 20 per cent of this cut should have been classified as solid rock, and there should have been at least 10 or 15 per cent common excavation.

I take it that the above are fair samples of classification on this residency, if

not on the entire division; in the aggregate you can readily see the effect upon the cost of construction.

For another example further west take the cut, station 5940 to 5950. Estimated 44 per cent solid rock, 56 per cent loose rock. While there is a small amount of ledge in the bottom of the cut, I should say 25 per cent would be ample, unless actual measurements of ledge and boulders have been taken. The other cuts visited in this vicinity are not so highly classified, though generally liberal.

The cut at stations 3880 to 3890 is mixed material, classified very highly in both solid rock and loose rock.

The cut at stations 3844 to 3862 is classified 14,410 yards of solid rock and 3,720 yards loose rock. Cannot imagine how anything approaching the amount of solid rock can be found in this cut; would say that 50 per cent would be ample.

Station 3786 to 3825. Cut open at both ends. Classification very high in solid and loose rock.

Stations 3775 to 3789. Seems heavily over-classified in solid rock.

Stations 3267 to 3277. Classified 9,140 solid rock, 2,860 loose rock, or 76 per cent and 24 per cent, 50 per cent of each would, I am confident, be liberal.

Stations 3239 to 3247. Classified 45 per cent solid rock, 55 per cent loose rock. While the quantities in this cut are not large, it is, in my judgment, classified out of all reason. I can see no solid in it, and nothing to exceed 20 per cent of loose rock.

East of the crossing of the Quebec Central railway we find a large amount of material borrowed from the sides of embankments, and although most, if not all, of this material has been ploughed and moved by slip or wheel scrapers, much is returned as loose rock. I am willing to admit that hard material is found in the bottom of these borrow pits, but little, if any, has been moved, and I cannot see how this material can be classified under our specifications. A sample of this classification is found between stations 1155 to 1200. Between these points we find 457 yards of solid rock and 3,049 yards of loose rock. There is a small cutting between these points which possibly might have a little loose rock, although it did not so appear to me in going over the work.

Westerly from this point there is a large amount of borrowed material which we have not seen. I presume, however, that you will find a certain percentage of classified material, even where material has been ploughed with two or four horses, and moved in the ordinary way.

In the above notes some of the station numbers may not be correct. I had supposed that I could check same by profiles in this office, but I find that neither the station numbers or mile posts agree with those found in the field.

This question of classification has been under discussion since early in October last. You have now seen different parts of the work in progress both east and west of the St. Lawrence river on Section 'B,' also at different places on District 'F,' where objections have been made to the classification as rendered by your assistants, and are, therefore, in a position to know whether our objections are valid.

We are sure that the classification as rendered does not agree with our original specifications or your instructions to your engineers, dated January 30. We believe that much of the material returned as solid rock in mixed cuttings is considered to be, under your instructions, what you term 'conglomerate,' as shown on diagram marked No. 3, but I fail to find in any of the cuttings examined any material which should properly be classed under that head.

As matters stand to-day, none of our objections have received serious attention, or at least no apparent change has been made in estimates as returned since September last. Some of the sub-contractors have finished their contracts, and others will soon complete their work. We object to their being paid upon estimates as

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returned, and therefore desire to know, with the least possible delay, what action you propose in the matter.

H. A. WOODS,
Assistant Chief Engineer.

By Mr. Chrysler:

Q. Well, then, have you told us all the inspection made by you—perhaps I am not using the proper word—the examination of the classification with Mr. Woods on the work; have you told us all the visits that you paid to the work with him prior to the time you met as one of the arbitrators?—A. My recollection is that I was only with Mr. Woods on three occasions outside of possibly another trip to the Cap Rouge viaduct, which was not in connection with the classification. One was at La Tuque, one was to two pieces of District 'F'—one near the extreme east end of the McArthur contract and one between the Wabigoon river and westward for about thirty or thirty-five miles, something like that—and a third was east and south of the St. Lawrence.

Q. About your visit with Mr. Woods at the extreme east end of the McArthur contract, when did that take place?—A. Immediately after the visit to the portion between Wabigoon and west, but we only practically went over one cutting.

Q. Was that near Pacific Junction?—A. Yes, near where the junction was supposed to have been.

Q. You might explain in order to avoid possible confusion what you mean by that? Was the point of junction changed from the place where it was originally intended to be?—A. It was. We afterwards utilized 11 miles of line which had been used—that had been constructed by the Grand Trunk Pacific as part of the main line.

Q. That was on the east end of the railway?—A. That was from the end of McArthur's contract eastward.

Q. And the point of junction was in that way moved eleven miles.—A. Yes, it is about eleven miles.

Q. From where it was intended to be. And this place you spoke of was a cutting near the point?—A. It was the first cutting if I remember rightly on the McArthur contract from the east and going westward.

Q. And was near the original point of junction?—A. Yes.

Q. When was that visit made? That would be in—— ?—A. I think it was in June, 1908.

Q. And what was the controversy then in regard to the cutting or was there any? —A. There was a controversy about the amount of rock and loose rock in it. I am not sure whether that cutting was mentioned in that.

Q. I was going to ask?—A. I am not very sure whether it is or not.

By Mr. Moss:

Q. Do you know the number of it?—A. I think it is about station 160 or 163.

By Mr. Chrysler:

Q. Not 178 is it? We have a lot of evidence here about 178, I do not know what it is.—A. It is 160 something to 170 something. I am not sure, it may be the one.

Q. It is referred to in the evidence of one of the resident engineers, he is examined about station 178. Will you take a moment and see if it is mentioned in that list you have here? I understand that these notes that you put in the other day were notes of observations which you made in 1909?—A. Yes.

Q. It does not matter if you do not see it at the moment, we can look it up later.—A. It is referred to in Mr. McHugh's evidence.

Q. McHugh refers to it, I think, a long cut at Pelican Falls.—A. That is the one I think, station 160 something to 170 something.

Q. You remember station 178. Well there is a reference to that in the evidence

of McHugh at page 95 of the evidence. Of course you visited that again and that is the evidence that was taken a year later?—A. Yes.

Q. This evidence of McHugh is on the 2nd May, 1909. I just wanted to know whether it is one of those we have already covered. If it is not a new case it will come up in connection with McHugh's evidence. Then you have now covered, Mr. Lumsden,——

Mr. MACDONALD.—What evidence was that you referred to?

Mr. CHRYSLER.—The evidence produced by Mr. Lumsden.

Mr. SMITH.—On page 95 of the evidence.

Mr. MOSS.—That is not evidence at all.

Mr. CHRYSLER.—It is a statement made before Mr. Lumsden which has been so treated.

Mr. MACDONALD.—Do you represent Mr. McHugh, Mr. Moss?

Mr. MOSS.—I cannot say I represent Mr. McHugh, I think he is in England and has no opportunity of being represented by anybody. I represented the other gentlemen who are in the same position and I object very strongly to that statement being spoken of or being treated as evidence, because I think we will show that it was not evidence at all.

Mr. SMITH.—It was not admitted as evidence, it was admitted purely for reference.

The CHAIRMAN.—Yes, for reference.

Mr. MACDONALD.—Is McHugh in the employ of the Transcontinental Railway now?

Mr. MOSS.—Not now.

Mr. MACDONALD.—Since when has he not been, do you know? It is important at this stage to know that.

Mr. SMITH.—Mr. McHugh has left the service but no date is given.

Mr. MACDONALD.—You do not know when he left.

Mr. MOSS.—I think it is quite fitting that I should at this stage take exception to that phrase that Mr. Chrysler used in speaking of that statement as evidence, because the way in which it was taken and the circumstances under which it was transcribed, I think would have shown it was utterly untrustworthy.

The CHAIRMAN.—I do not think that should be admitted here as evidence. It was understood at a previous meeting that it should be put in and referred to before the Committee and not to be treated as evidence.

Mr. MOSS.—Well I noticed, Mr. Chairman, that on one occasion it was referred to, and it was said that Mr. Lumsden was putting that forward as being a statement of what had been said in his presence, and I think it may be very fitting that we should know definitely whether Mr. Lumsden is prepared to take the responsibility of saying on his oath what he recorded there was stated in his presence, because my instructions are that the record is entirely incorrect.

Mr. CHRYSLER.—Of course you can ask Mr. Lumsden. I am only distinguishing at present between a visit in 1908——

Mr. MACDONALD.—To identify it.

Mr. CHRYSLER.—To identify it. It was afterwards mentioned in 1909. I was going to pass it over at present but I do not know what Mr. Lumsden would say if you want to ask that question now. I understood that the Committee had allowed Mr. Lumsden to file the statement, the typewritten copy of the evidence, because he said it was one of the things which had affected his mind.

Mr. MACDONALD.—He attached some weight to the statement and said it affected his judgment and caused him to lose confidence in certain engineers.

Mr. MOSS.—So long as it is not treated now as being evidence before the committee—

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Mr. MACDONALD.—I should think he would have to prove it or it would be open to you to discredit it in any way.

Mr. MOSS.—I think if you are going to rely on it, it ought to be proved at some stage.

Mr. MACDONALD.—I understand Mr. Chrysler is only talking about for the purpose of identification.

By Mr. Chrysler:

Q. Then you visited the eastern end of McArthur's contract immediately after being at Wabigoon?—A. Yes.

Q. About the month of June, 1908?—A. Yes.

Q. And you saw there at that time only one cutting?—A. Only one cutting and a little bit of a fill adjoining it.

Q. Did you see the resident engineer and get any explanation from him at that time?—A. I merely just met him as I was coming away if I remember rightly.

Q. So it was not discussed with him?—A. I think I had gone over it with Mr Woods before I met him, if I remember rightly.

Mr. SMITH.—That is McHugh?

Mr. CHRYSLER.—McHugh in 1908.

Q. Then have we exhausted the cases in which you visited the work with Mr. Woods owing to the complaints he was making and the correspondence which we have here?—A. That is all I recollect, those three occasions. When I say three—

Q. You mean two in the West, and one of them south and east of the St. Lawrence river?—A. And one at La Tuque.

Q. We read before adjournment a letter in which you reported that you had asked Mr. Woods a number of times to make progress with the naming of an arbitrator, a third arbitrator that is?—A. Yes

Q. When was it that you finally got an arbitrator appointed?—A. About November, 1908, I think.

Q. That appears here somewhere (pointing to return) perhaps you can find the appointment.—A. It is a letter from Mr. Kelliher.

Q. A letter from whom?—A. Mr. Kelliher or at least the correspondence immediately before. He made the suggestion.

Q. The appointment is dated March 16, 1909, and the acceptance on March 22, 1909, as follows:

EXHIBIT No. 26.

OTTAWA, March 16, 1909.

COLLINGWOOD SCHREIBER, Esq.,
General Consulting Engineer to the Government,
Ottawa, Ont.

DEAR SIR,—By clause 7 of the agreement between the Government of Canada and the Grand Trunk Pacific Railway Company, dated the 29th July, 1903, being schedule to 3 Edward VII, Chapter 71, in regard to the construction of the eastern division, it is provided, that the work shall be done according to the specifications approved of by the Grand Trunk Pacific Railway Company, and shall be subject to the joint supervision, inspection and acceptance of the chief engineer appointed by the government and the chief engineer of the railway company, and in the event of differences as to the specifications, or in case the said engineers shall differ as to the work, the questions in dispute shall be determined by the said engineers and a third arbitrator to be chosen by them.

Some such differences having arisen as a result of objections filed by the company, we hereby beg to choose you as third arbitrator for the determination of the questions now in dispute, and on which we have failed to agree after visiting the

work, and shall be pleased if you are agreeable to accept the office. In the event of your acceptance, a formal submission will be prepared and handed to you later,

HUGH D. LUMSDEN,
Chief Engineer, Transcontinental Railway.

B. B. KELLIHER,
Chief Engineer, Grand Trunk Pacific Railway.

I hereby accept the above appointment.

COLLINGWOOD SCHREIBER.

March 22, 1909.

Q. Then there was correspondence after that in reference to an agreement which was proposed on the part of the Grand Trunk Pacific as being made the 14th day of May, 1909. Was that agreement ever made?—A. No, it was submitted by the Grand Trunk Pacific but never accepted. It reads as follows:

EXHIBIT No. 27.

May 14, 1909.

Mr. HUGH D. LUMSDEN,
Chief Engineer,
Transcontinental Railway Commission,
Ottawa, Ont.

DEAR SIR,—As promised, I send herewith, in duplicate, Form of Agreement covering matters to be arbitrated, pertaining to the Eastern Division, which has been executed on the part of the Company. If acceptable to the Honourable the Minister of Railways, kindly return one copy to me after being signed on behalf of Government.

E. J. CHAMBERLIN,
Vice President and General Manager.

THIS AGREEMENT made the Fourteenth day of May, A.D. 1909.

Between:

HIS MAJESTY THE KING, acting in respect of the Dominion of Canada and herein represented by the Honourable George P. Graham, Minister of Railways and Canals, hereinafter called the 'Government,'

Of the First Part,

and

The GRAND TRUNK PACIFIC RAILWAY COMPANY, hereinafter called the 'Company,'

Of the Second Part.

Whereas in and by the seventh clause of the agreement entered into between the parties hereto, dated 29th July, 1903, being Schedule to 3, Edward VII, Chapter 71, providing for the construction of the Eastern Division subject to the joint supervision, inspection and acceptance of the Chief Engineer appointed by the Government and the Chief Engineer of the Company, it is provided that in the event of differences between the said Engineers as to the specifications for the Eastern Division, or in case the said Engineers should differ as to the work, the questions in dispute shall be determined by the said Engineers and a third arbitrator to be chosen in the manner provided in paragraph 4 of said agreement;

And Whereas differences have arisen between the said Engineers both as to the said specifications and work, and Collingwood Schreiber, Esquire, C.M.G., has been duly chosen third arbitrator in conformity with the provisions of Clause 7 of said agreement;

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Therefore this Agreement Witnesseth that the following questions in regard to the specifications and the work in respect of which the said engineers have differed shall be submitted for determination to the said engineers and the said Collingwood Schreiber, Esquire, as third arbitrator, namely:—

(*a*) The interpretation of the specifications as applied to the actual work, each party under this heading to be at liberty to ask for the construction or interpretation of any particular clause of the specifications not already approved by the engineers and such construction or interpretation when given to be conclusive as to all work already done, and to be thereafter binding in regard to all future work to be done.

(*b*) Classification of material handled by contractors in the formation of the roadbed, or incident to other work forming part of any of the contracts on the Eastern Division.

(*c*) Payment to contractors for handling material in cutting in excess of the theoretic section to be excavated, whether caused by slides, excessive use of explosives or otherwise, and commonly termed 'over-break.'

(*d*) All other matters not included in the foregoing but which may properly form the subject of arbitration under Clause 7 of the said agreement, that may be presented during the arbitration of which matters, provided, however, at least ten days' notice must be given by the party submitting the same for arbitration, to the other.

The award of the said arbitrators, or a majority of them, shall be final and binding upon the parties hereto, each of whom agrees with the other to abide by and observe such findings as may by the said arbitrators be made under and in pursuance of these presents.

It is agreed that neither party will be represented by counsel before the said arbitrators in respect of any questions coming before them for determination under any of the clauses of this agreement.

And for the sake of ensuring uniformity in the interpretation of the specifications, and in the work of construction of the Eastern Division, as well as for the sake of ensuring speedy action and obviating unnecessary delay;

The parties further agree:—

That the said Collingwood Schreiber is to continue to act as third arbitrator in respect of all future differences determinable as provided under Clause 7 of the said agreement, which may from time to time arise between the said Engineers without the necessity for a formal re-appointment in each particular case that may arise for arbitration.

In Witness Whereof this agreement has been duly executed by the parties.

Signed, Sealed and Delivered in the presence of

HIS MAJESTY THE KING

THE GRAND TRUNK PACIFIC RAILWAY COMPANY.

E. J. CHAMBERLIN,
Vice Prest. & Gen. Manager.

HENRY PHILLIPS,
Secretary.

Memorandum of Agreement to be Drawn Up Between the Commissioners of the Transcontinental Railway and The Grand Trunk Pacific Railway Company.

Monthly estimates for Contractors shall be submitted promptly from time to time by the Chief Engineer of Commissioners to the company's Assistant Chief

Engineer at Montreal for approval. If he has any objection to such estimates he shall promptly file the same with the Chief Engineer of the Commissioners, and any objections from time to time filed shall thereupon be considered, and, if possible, determined by the said Engineers, and in case of their failure to agree, may then or at any time before or at the time of the final payment, at the option of either party, be considered and determined by arbitration as provided in the agreement of the 29th July, 1903, but in no case shall the payment of monthly estimates be delayed except with the consent of the Commissioners.

In case the Chief Engineer of the Commissioners and the Assistant Chief Engineer of the company disagree as to the final payment, the same shall be withheld until the matter is determined by arbitration, as provided in the said agreement of 29th July, 1903.

Mr. CHRYSLER.—That agreement was not accepted by——A. By the Commissioners.

Q. And that appears in your letter as follows:

EXHIBIT No. 28.

May 15, 1909.

E. J. CHAMBERLIN, Esq.,
Vice-President and General Manager, G.T.P.,
Montreal, Que.

DEAR SIR,—Yours of yesterday inclosing proposed agreement covering matters of arbitration duly received, and on bringing the matter before the Commissioners to-day, they are of the opinion that any such agreement is unnecessary, and all that is now required is, for the three engineers to proceed under Clause 7 of the agreement and arbitrate matters of classification and overbreak, as specified in my letter to Mr. Kelliher, dated the 1st of February, 1909.

HUGH D. LUMSDEN.

Now that appears to indicate two or three things, and I want to know if I am drawing the correct inference. In the first place Mr. Schreiber was appointed as appears on March 22, and up to the 15th of May had anything been done under that agreement?—A. The 15th of May? I think not.

Q. Was there any other cause of delay except the delay in regard to the putting in of this proposed agreement and its rejection? Was it because the Grand Trunk Pacific were asking to have this put in the form of an agreement rather than in the simple appointment of an arbitrator?—A. I do not recollect it.

Q. Does that explain the delay?—A. I think the delay was more on account of the weather. That is my opinion waiting for the——

Q. Because it would not be a suitable time to visit the work so early as March or April perhaps?—A. The snow did not go off as early as anticipated.

Q. The preparation and tender of this agreement had nothing to do with the delay.—A. We left here on the 19th of May on that arbitration.

Q. And where did you go?—A. We went to Fort William, and then over the Grand Trunk Pacific to the end of their track.

Q. Have you your diary there showing just how much time you spent; have you your itinerary there?—A. Yes. (Producing diary.)

Q. How many days were you going over Section 'F'?—A. We left here——

Q. Or District 'F' rather?—A. We left here on the 19th May and we reached St. Boniface on the 15th June.

Q. It is quite close to Winnipeg?—A. The other side of the river.

By Mr. Clarke:

Q. Does the railway go to St. Boniface?—A. Our road ran very close to it. I think it runs into St. Boniface, but not down to the river.

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By Mr. Smith:

Q. You might say what the distance is?—A. About two or two and a half miles.

By Mr. Chrysler:

Q. The whole length of the section?—A. 244 miles practically.

Q. When did you leave Fort William? You said you left Ottawa on the 19th May?—A. We were at McGillivray's on the—we left McGillivray's on March 22.

By Mr. Moss:

Q. That is not the beginning of the work?—A. No; that is really on the Grand Trunk Pacific work, about five miles from the junction.

Q. That is on the eleven miles, is it?—A. That is on the eleven miles.

By Mr. Chrysler:

Q. You left there on the 22nd of May?—A. On the 22nd of May.

Q. Well, then, can you tell us from day to day where you went?—A. Yes.

By Mr. Moss:

Q. Did you inspect the eleven miles?—A. We did, but we only went over it on the car. I don't think we got off the car at all, but we looked at the classification of the eleven miles.

Q. On the car?—A. Yes; we had the figures and what it was classified at, and simply looked at it from the car; that is my recollection of it.

Mr. CHRYSLER.—We will just take the dates, if you please, Mr. Moss. Let us get it in one place.

Q. Tell us from day to day where you were?—A. We left McGillivray's at 7.35.

By Mr. Smith:

Q. A.M.?—A. A.M., yes. We went from there to Lost lake. Richan and McHugh joined us at the old junction.

By Mr. Chrysler:

Q. Those are two of the men who have given evidence in this statement?—A. That is the beginning of McArthur's contract.

Q. Then, Mr. Lumsden, in looking at this evidence on page 44, or statement put in by you as a copy of the depositions taken, I find George F. Richan, division engineer, called and sworn at Lost lake siding on the 22nd May?—A. Yes.

Q. John McHugh called on the 2nd May, 1909; that must be a mistake?—A. The 2nd of May?

Q. It must be the 22nd of May, the same day that Richan was called?—A. I think so.

Q. Then, did you go beyond Lost lake siding on that day?—A. No.

Q. You stayed over there that night?—A. We stayed there that night, and went back to the old junction on Sunday.

Q. What date was that?—A. The 23rd.

Q. When did you leave again?—A. We did not leave; we went over the work again on the 23rd, that is, we looked over the whole of it again.

Q. On the Sunday?—A. On the Sunday; and left on Monday, the 24th.

Q. That is, from the junction to Lost lake siding?—A. That is, we went over it on Sunday, stayed at Lost lake on Saturday night, and went back over it again on Sunday, and then back again to Lost lake.

Q. Did you get any further on Sunday?—A. No; we stopped at Lost lake again that night.

Q. When did you leave again?—A. We left Lost lake at 7.45 on Monday, the 24th, and we got to the end of the track in the morning; that was as far as we could go in the car.

Q. That is on the same morning?—A. The same morning—Monday, the 24th.

Q. You arrived there within an hour?—A. I do not know the hour we started, but we had only two or three miles to go.

Q. The track had been laid then to that point?—A. The track had been laid to station 705.

Q. Yes, we have that?—A. And we got there at 7.45 in the morning.

By Mr. Moss:

Q. That was the end of the steel, was it?—A. That was the end of the steel from the eastward.

By Mr. Chrysler:

Q. Now the 24th, how far did you get on the 24th?—A. We stopped at a sawmill office at about 7.20 p.m. 'Poor quarters,' that is the only note I have about that.

Q. You mean you slept in a sawmill?—A. We slept in the deserted office of the sawmill.

Q. Have you the station there?—A. No, I have not the station, no.

Q. That is on Monday the 24th, did you move again on the 25th?—A. Yes, we left at 6.55 a.m.

Q. Have you got the station?—A. I have not the station.

By Mr. Smith:

Q. You said you only got there at 7.20, did you leave at 6.55 a.m.?—A. We got there at 7.20 the day before.

By Mr. Chrysler:

Q. How far did you get that day?—A. We got to Richan's quarters on Good lake about 8 o'clock p.m., and we went looking over the track as far as the tunnels and then we got teams there and drove to Richan's camp.

By Mr. Moss:

Q. How far would that be?—A. I cannot tell you from these notes.

By Mr. Chrysler:

Q. Give us what you can from your notes and if there is anything you can add from memory give it to us.—A. We reached Richan's camp about 8 o'clock, and the note I have is, 'Phillips there at his residency.' His residency was at the same place as Richan's.

Q. What night was that?—A. That was the night of Tuesday, the 25th.

Q. Yes, and on Wednesday.—A. On Wednesday, the 26th we left Good lake at 7.50 and went east to near the tunnel, that is we went back with the team.

By Mr. Smith:

Q. Have you further notes on that day's work?—A. I have further notes, but I am simply giving this to you out of my diary. We went east to near the tunnel and then back to Good lake, and then on to Ross' camp.

By Mr. Chrysler:

Q. How did you get there, did you walk over the right of way?—A. Over the dump to Pear lake for the night, about three quarters of a mile south of the line.

Q. South of the line of railway?—A. That is the note I have. Mr. Bell, the division engineer joined us at the east end of his district.

Q. Did he join you that night?—A. It was evidently that day, I do not remember what time; I have a note that after that we examined Phillips, that is on the 26th.

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Q. Yes, Mr. Phillips appears here, resident engineer, residency 22, division 5, called and sworn on the 26th day of May, 1909. All right, go on.—A. Left Ross' camp about 7, that is on the 27th; I have a note there: 'Ross away married.' Had lunch at Anderson and Johnson's camp 8, about noon on to mile 62¾, and by canoe to Mack's camp, who joined us at the end of his residency, that is up to the night of the 27th.

Q. And apparently, from the mention of the mile here, you had got over 62 miles of the track?—A. 62¾ miles is what I have.

Q. And some diversions.

By Mr. Moss:

Q. That is up to that date?—A. Yes

By Mr. Chrysler:

Q. What is the next move?—A. Left Mack's camp about 7.30 and by canoe to line, then on; driving over the line most of the day, that is we had a team with us, had lunch at Anderson and Johnson's camp.

Q. How would you drive over the line, is there a tote road?—A. No, on the dump most of the time, sometimes it went off the dump, then on, after meeting Millar, the resident engineer, on to Bell and Millar's camp at Wabigoon river at 4.30.

Q. That is of the 28th?—A. Of the 28th.

Q. And then Millar, the resident engineer, apparently gives his deposition?—A. Yes, that is right.

Q. On the 28th of May, 1909?—A. I may say I saw Mr. Millar the first time I was there with Mr. Woods; I mentioned the names of McIntosh and Bell, but not Mr. Millar.

By the Chairman:

Q. Were you travelling all this time with Mr. Wood?—A. No, this was the arbitration.

By Mr. Chrysler:

Q. I will put this in after a time, I am treating this as one man at present.—A. We left Wabigoon camp about 7.20 and used teams to Parson's camp, that is we drove up along the line to Parson's, using a team and then on to Station 4456.

Q. Is that the end of the day?—A. That is the end of the day, then we go back to Parson's camp at the east end of Canyon lake.

By Mr. Moss:

Q. Is Parson's camp at Canyon lake?—A. Yes, at the east end of Canyon lake.

By Mr. Chrysler:

Q. That would be the 29th?—A. Yes, and the next morning the 30th we left Parson's camp by 7 a.m. by steamer.

Q. There is a steamer on Canyon lake?—A. Yes, belonging to Parsons.

Q. Belonging to the contractor?—A. Yes, we landed at 7.30 at Station 7438.

Q. How long did it take you on the steamer?—A. About half an hour apparently.

Q. And did you go on for the rest of the day?—A. Yes, we went on for the rest of the day. The steamer went around somewhere or other on Canyon lake, I know we had lunch on the steamer; we went on the line and the steamer went around.

Q. The steamer picked you up again?—A. I do not think it picked us up, but we struck the steamer somewhere and got luncheon, and then we went on to Sunstrum's Camp on the north side of Flavelle Lake on Sunday.

Q. On that day, according to this date that is correct, Mr. W. W. Bell, division engineer, Division 6, was called and gave his deposition at Canyon Lake on the 30th

of May, 1909. Would that be right?—A. That was taken on the steamer, I remember we had him on the steamer while we had lunch.

By Mr. Moss:

Q. You did not examine Mr. Bell on Sunday?—A. I am afraid we did.

By Mr. Chrysler:

Q. You examined Mr. Bell and you examined the track also on Sunday.—A. We examined the track all day.

Q. What move did you make on Monday morning?—A. We left camp at 7.10 and went on and stopped at 4.30 west of Millage's old camp, then we went on, apparently we stopped there for supper and then went on after supper to the crossing of North-West lake, Station 1235 and then back to the camp for the night. That is we had supper, went on over the line, and then came back to the camp for the night at Station 1235.

Q. What do you refer to there by the word crossing?—A. 'Crossing North-West lake' is what I have here.

Q. Is that the name of the lake, North-West lake?—A. I think it must be, I cannot tell from memory.

Q. We do not understand it, but the engineers know it probably, and will be able to tell us where the stations are. And then you came back to Millage's old camp?—A. That is what I think it means.

Q. That is Monday, the 31st of May?—A. Yes.

Q. Now, for the first of June.—A. We left Millage's camp at 6.30, then we went on past what is known as Reddit and went to Station 650, which is the divisional point, we were going to make it a divisional point, we went to Station 650 on Corn lake and back to Mattice's headquarters on Armstrong lake for the night.

Q. And on the 2nd of June?—A. On the 2nd of June we left Mattice's camp, division headquarters, about 7, and went 2¼ miles by canoe to a point on Corn lake, reached the Winnipeg river and went to Holst's Hotel.

Q. That is on the 2nd of June?—A. That is the night of the 2nd of June.

Q. And you spent the night there?—A. We spent the night there.

Q. When did you get to St. Boniface? Are we near there now?—A. Oh, no, we have three days more.

Q. Where were you on the night of the 3rd?—A. On the night of the third we went to the east side of the sink hole, Station 7993.

By Mr. Moss:

Q. What was your day's work on the 3rd?—A. From Holst's to the sink hole at Station 7993. We had a car then from Winnipeg river going westward.

By Mr. Chrysler:

Q. The track was laid to Winnipeg river at that time?—A. Yes, from the west.

Q. Then you were able to travel more rapidly, I suppose? Then when you were through at the sink hole on the 4th where did you go?—A. We left the sink hole and we got to Station 8942, I think it was, and got there about 6.30; we stopped at that hour for the night.

Q. And the 5th took you to St. Boniface?—A. The 5th took us to St. Boniface. We only went over the track really to a mile or two west of the crossing of the C.P.R. and then we ran into St. Boniface.

Q. That is all prairie, there was nothing there to look at, it was all prairie work?—A. All prairie.

Q. How far west of the Winnipeg river did you leave the rock cuttings?—A. You do not leave the rock cuttings until you get three or four miles west of the crossing at Rennie, but they are not much, comparatively small.

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Q. Rennie is the point where you cross the C.P.R.?—A. We cross the C.P.R. really two miles west of Rennie.

Q. How far is that from St. Boniface? 40 miles?—A. Oh, more than that, it is more like 65 or 70 miles.

Q. I was told to-day it was 79 miles to the Winnipeg river from Winnipeg?—A. How much?

Q. 79 miles.—A. Oh, it is more than that.

Q. It may be a different place, that is to where the water-power for the city of Winnipeg is obtained.—A. That is going over the country, to Lac du Bonnet.

Q. How far is it from Winnipeg river where you cross it to St. Boniface?—A. I would hate to say, I think it would be about 100, I almost forget, it is about 18 or 19 miles north of Kenora.

Q. The river is running pretty nearly west there?—A. I think it is 125 or 130 miles, I am not positive as to the distance.

Q. From the crossing of Winnipeg river on to three miles or so from the C.P.R.?—A. Three miles west of Rennie.

Q. West or east?—A. West of the crossing.

Q. Is there rough territory up to the crossing?—A. Yes, there is some at the crossing and some two or three miles west of the crossing.

By Mr. Moss:

Q. Do you know the number of the station at Rennie's Crossing where you stopped?—A. No, I have not the number of the station.

Q. You are now speaking of two or three miles west of Rennie?—A. Yes, that is the crossing.

By Mr. Chrysler:

Q. You have told us the time occupied on this tour of Section 'F,' all that is west of the junction?—A. Yes.

Q. Who accompanied you?—A. Mr. Schreiber, Mr. Kelliher, and we had a Mr. Jones; there was a stenographer and another stenographer who was with Mr. Schreiber—I do not know whether I have his name here or not—I cannot think of his name at the present moment; those are the people who were in the car with us.

Q. Those two, but had you any other assistants or attendants?—A. Except the cook; that is, we had him with the car.

Q. Well, but what happened to the car? Did you leave it at the junction and send it back?—A. We sent it back.

Q. And it came around and met you at the Winnipeg river?—A. Yes.

Q. The cook did not travel across the country with you?—A. No.

Q. And for a good part of the distance between the end of the rail at the east and the end of the rail at the west you travelled over the work?—A. Yes.

Q. And over a part of that distance, as you have indicated in the diary, you used a canoe?—A. Well, we never used a canoe along the line, as a rule, but we used the canoe in getting from the line to the camp, or something like that.

Q. You went over the whole line, and in cases where you used the canoe to go from one point to another you came back and examined the whole line?—A. I do not think we skipped any part of the line that I remember.

Q. Why were you examining the whole of the line if there were only certain named stations in dispute—perhaps that is trenching upon the question of arbitration, though?—A. I know I examined the whole line, whether in question or not.

Q. I do not know whether you have it in the notes yet or not, but that was a visit of the arbitrators who were supposed to be acting under the agreement, and you were acting as an arbitrator?—A. Yes.

Q. And Mr. Schreiber and Mr. Kelliher were there as arbitrators?—A. Yes.

Q. Then you got to St. Boniface, and that finished your inspection, and you saw Mr. Poulin?—A. I saw Mr. Poulin in St. Boniface.

Q. Did you examine any one else on the staff?—A. We did not examine any of the rest of the staff.

Q. Mr. Poulin was the only one examined, and it was on that occasion that he made the statements which are printed here—we will see the date in a moment

By Mr. Moss:

Q. That will be in Winnipeg?—A. I would not be positive; it might have been at St. Boniface.

By Mr. Chrysler:

Q. Mr. Poulin was called and sworn at Winnipeg on the 8th day of June; I think you said you got to St. Boniface on the 5th?—A. Yes, on Saturday night.

Q. Was it after this you went to Section 'B'?—A. Yes, it was after that.

Q. When did you go to Section 'B'?—A. We reached Quebec on Tuesday, the 15th of June.

Q. And when did you reach the work?—A. We left Quebec at 9.30 on the 16th and reached La Tuque about 4 o'clock.

Q. That was on the 16th?—A. On the 16th.

Q. That is the point of commencement, is it, for this portion of District 'B'?—A. Yes; we went up to the far end of the steel before we did any work.

Q. You just went immediately up by train? Where was the far end of the steel?—A. We went up to Ludger Noel creek, about mile 141; that is where we went on the 16th.

Q. Then which way did you turn; did you go over the part where the track was not laid further?—A. We walked out about—somewhere about—I have it; we went out to near Creek à Shea on the 17th; we left the car about 4.50 in the morning and walked out to Creek à Shea, somewhere about mile 150.

Q. Was that the end of the work?—A. This is beyond where the arbitration was going on, but I went over this because I wanted to see the work.

Q. Did the others go over it, too?—A. The others went over it, too.

Q. This was outside the arbitration?—A. It was outside the arbitration.

Q. Well, I suppose you were entitled to go over it if you wanted to, because you were using your own time if you got up at 4 in the morning. Where is that; anywhere near the St. Maurice river?—A. Not a great distance. It is close along the St. Maurice all the way.

Q. Then you turned back for the purpose of examining?—A. We went up there; I don't know what time we got up there; we must have got up about seven o'clock or so, and then started to walk back, and it rained on the way over; it rained a good part of the afternoon.

Q. Was that over there?—A. Oh no. I took notes all along there.

You were doing work as chief engineer?——It was not for the arbitration?—A. No.

Q. You left Creek à Shea at 7 and walked back from there?—A. Yes, we walked there and we walked back.

Q. What portion of the line was it you were examining as arbitrators, and which you have referred to in these notes of yours? Where did that begin?—A. Somewhere about mile 140, I think——

Q. That is the end of steel at that time?—A. No, I think some of it was before we came to the end of steel. I don't remember the station.

Q. And back to mile 50? Did it begin at mile 50? It began at LaTuque; what is the distance to LaTuque?—A. LaTuque is mile 115 or something like that.

Q. Then does this cover only about 25 miles?—A. We went, I should think, about thirty miles north of LaTuque altogether.

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Q. But omitting any reference to the part of it that you were looking over as chief engineer, the part that is discussed in your memorandum here is between mile 115 and mileage 104, isn't it?—A. No, what I have been giving you is coming backwards now towards LaTuque, starting about mile 150. That, we took the care somewhere about mile 151 and walked back.

Q. I understood you to say that nine miles was not being examined by yourself and your fellow engineers for the purpose of inquiring into over-classification?—A. No, it was not.

Q. Then let us forget it.—A. All right; still, it interested me, mind you, though it didn't interest them.

Q. It does not concern this inquiry here?—A. Except some of the stations I have given may be on that 50.

Mr. MACDONALD.—Do you know whether they are or not? We have plenty here without going outside of anything that is within the inquiry.

By Mr. Chrysler:

Q. Look at page 79 (Exhibit No. 2), where your list is printed?—A. I am trying to see if I had any stations in my diary, but I have not.

Q. Look at your copy there and follow me down?—A. The only one is 5052 and in that neighbourhood.

Q. What about 7036?—A. They might be.

Q. I hear Mr. Doucet suggesting that all over 7,000 are on his.

Mr. DOUCET.—All beyond 6,500.

The WITNESS.—Yes, I guess that is right. Those over 6,500 are all outside

By Mr. Chrysler:

Q. Then that distance of 9 miles or 10 miles was outside?—A. It is more than that.

Mr. DOUCET.—18 miles.

The WITNESS.—18 miles.

Q. Beyond the point where you were acting as arbitrators?—A. Yes.

Q. And how much was being examined by you as members of this arbitration board? Between what mileages?—A. Up to Station 6500.

Q. From what? Can you tell us by the mileage post.

Mr. PARENT.—Mile 132.

The WITNESS.—That is where it ended; but where did it start?

Mr. DOUCET.—115, Creek Abouche, then Robert's creek, 65 to 85, then from 115 to 132.

Mr. CHRYSLER.—Now we have got it approximately?

The WITNESS.—Yes, I daresay they are.

Mr. MOSS.—115 to 132 was inside the arbitration?

Mr. CHRYSLER.—Yes, that is what I understand.

Q. Then this reference to the stations which number above 6,500 were beyond?—A. Yes.

Q. Although they were not being examined by you as arbitrators, were you examining them officially for any purpose?—A. Well, I wanted to see; I got the notes of the classification and looked at the classification the same as I did the others.

Q. From whom did you get the notes?—A. From engineers on the ground.

Q. Did they walk up with you?—A. Yes, some of them did.

Q. Who did?—A. Well, I know Mr. Doucet was there. I know Mr. Huestis was there.

Q. He is one of Mr. Doucet's assistants?—A. Yes, and then there were the local engineers, the resident engineers who were on the ground.

Q. And in that way you made these notes that you have indicated here?—A. Yes.

Q. Were Mr. Schreiber and Mr. Kelliher interested in that part of the line?—A. They took notes too, I believe.

Q. Then you got back to mile post 132—I don't know whether we have given it a name yet or not; how did you examine the remainder backwards, back to 115, or when did you do that?—A. Oh, we came on continuously.

Q. How long were you doing that?—A. Well, we left Ludger Noel at 9.45 in the morning of the 18th, using a hand-car, and we reached the end of the St. Maurice Bridge about a quarter to three in the afternoon.

Q. Was that mile post 115?—A. Oh, no, it is more than that.

Q. You had passed over those 17 miles, anyway?—A. No. What is the mileage of the St. Maurice Bridge? Mr. Doucet; 129.

Q. Do you mean that you had only gone three miles?—A. We started from 141 at Ludger Noel.

Q. You had nine miles of steel there between 141 and 132?—A. Yes.

Q. And you got to 129 in the middle of the afternoon?—A. Yes. I am not positive to the mileage, but we came to the north end of the St. Maurice bridge, then we came across the bridge and had our lunch, I remember that.

Q. Did you do any more that day?—A. Well, we went on as far as La Tuque village that night.

Q. Were you making an examination of the classification between mileages 132 and 141 as well as backwards from 132 to 126?—A. I took notes of every cutting right through, whether it was in the arbitration or not.

Q. Whether the others did or not you don't know?—A. I believe they did, but I would not be positive.

Q. Do these notes refer to stations between mileage 132 and mileage 141?—A. Some of them do.

Q. Do you know the nearest station at mileage 132? Mr. Doucet: About 6,500.

Q. We have already covered that, then?—A. If we take 6,500 we get all the stations which are beyond 132 miles.

Q. Then how much more time did you occupy in examining the rest of the district north of the St. Maurice?—A. We examined Bourgeois that night—the night of the 18th.

Q. Was this on Bourgeois's division?—A. This was on Bourgeois' division.

Mr. Moss.—Where was his division? Do you know the mileage?

A. No; Mr. Doucet would know.

Mr. Doucet.—115 to 132 is on his division.

Mr. Chrysler.—Do you remember the depositions of Bourgeois?

A. Yes.

Q. That was taken on the 18th June?—A. On the night of the 18th June.

Q. Just finish it up?—A. (Consulting diary). On the 19th we went on to siding station 5521, which we reached at 6.40 in the evening.

Q. You spent the day there; you cannot tell us the mileage?—A. No, that was the station there. That occupied the 19th. Then on the 20th, that was Sunday, we started at 7.15 in the morning and we sent the car around.

Q. There was a gap there?—A. There was a gap there; the track was not laid, and we sent the car around.

Q. You walked over the gap, did you?—A. We walked over the gap, yes.

Q. On the dump, I suppose?—A. Yes, most of the way. One piece, crossing the river, we did not. We stopped that night I think at station 4440, that is the station I have got here, but it says 'had car run east to Lake.' We ran down to get away from the flies—ran it down a mile or two down the main line. I think station 4440 was what we stopped at.

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Q. Then the next day, Monday the 21st?—A. Monday the 21st we left station 4440 about 7.30 and we went just over the crossing of the Batiscan river and stopped the night of the 21st.

Q. Did that take you down to mileage 115?—A. Oh, that took us away beyond. There is a piece below.

Q. The 65th to the 85th mile you have still?—A. That is on this, I think.

Q. But you got away past the 115th mile?—A. Oh, yes, the 115th mile is not a great distance out of La Tuque.

Q. About 11 miles—La Tuque is 126?—A. Yes, it would be somewhere about that.

Q. Then on the Monday did you go over that 20 miles from mileage 65 to 85, or did you take more than one day for that?—A. I can't tell by the mileage, for I am not familiar enough with the mileage.

Q. How many days did you take in finishing the remainder then?—A. We finished on Tuesday, 22nd; we had breakfast at 5.30, left at 6, went down as far as the Charest river, that is somewhere about 50 miles from the north end of the Quebec bridge.

Q. Now, you have given us the itinerary over all of District 'F' that was then in a state to be examined, and so much of District 'B' as was in question?—A. Yes.

Q. And the result upon your mind was what?—A. The result was that it seemed to me to be very much over-classified.

Q. And how soon after was it that you wrote the letter which we put in at the beginning—I think it is June 25?—A. This was June 22. I came straight back to Ottawa and put it in within a day or so after I came back.

Q. The letter is already in, and we need not refer to it; you expressed there the result of the examination on your mind at the time; have you anything to add to that?—A. No.

Q. Any qualifications to make of it?—A. Of which?

Q. Of the statement which you made the other day, or in your letter of the 25th June?—A. No; I don't think so.

Q. Are there other names of engineers, resident or divisional, from whom you obtained information on this?—A. No, I can't give you the names.

Q. You have given us the names that you remember, and those that we came across in these letters, for instance, Mr. Heustis?—A. I know the names of the other engineers, certainly, but I cannot place what ground they cover, except the district and division engineers, and I cannot tell even the division engineers, what they cover.

Q. You said the other day that your reason for feeling that you had lost confidence in your engineers was based upon two sets of facts; one of them the inspection which you made yourself and the notes which you made of that inspection, and which were embodied in this printed list?—A. Yes.

Q. I think you said also somewhere that there were other places of which you had no note?—A. Oh, I have got notes of a great many more than I have got in here.

Q. You have other notes?—A. Oh, yes; I have got notes of every cutting, I think, every cutting on the line, as far as I remember.

Q. Have you, in that diary that you were reading from, notes of the observations from day to day? I have been only asking you about your movements?—A. No, not in that diary. I have them in another note book.

Q. Your notes and your own observations you speak of as one of the grounds; and the other, the depositions which were taken?—A. The statements that were made in my presence.

Q. And are there any other statements which have any bearing upon this portion of the work except those which have been printed in the proceedings? I have mentioned them to-night as we went over them; you have read them, of course, I suppose?—A. Which statements do you mean?

Q. Those which are printed; those which are here are those of George F. Richan, Mr. McHugh, Mr. Phillips, Mr. Millar, Mr. Bell and Mr. Poulin on District 'F,' and Mr. Bourgeois on District 'B'?—A. Those are all our own engineers whose evidence

is in. There was evidence in that, I think, of one of the Grand Trunk engineers—Mr. Mann.

Q. But we have got here the statements made by your own engineers to which you referred?—A. Yes.

Mr. Moss.—Excuse me interrupting you, but in regard to those so-called statements, if you are going to allude to those I think it is only fair that you should ask Mr. Lumsden to pledge his oath to those, because my instructions are that that transcript that has been printed here is absolutely incorrect, and it has never been proved in any shape or form before this committee; and it is very unfair to these gentlemen that it should be referred to as their sworn statements.

Mr. Chrysler. I have not spoken of it as being sworn; I have called it the statements and the depositions. It is material here, whatever its value may be as evidence, because Mr. Lumsden says it is this which affected his mind.

Mr. Moss.—But you are referring to it as being statements. Mr. Lumsden has never sworn that those statements were made in his presence, or that they are statements.

By Mr. Chrysler:

Q. You hear what Mr. Moss says, Mr. Lumsden?—A. Yes.

Q. How far were those statements of those persons whose names I have read—we will not bother about the others—but those witnesses whose names I have just mentioned, how far did you personally hear the statements made by them?—A. I heard the statements made by them, but to say that that statement there is the actual words used by them, I cannot and I won't.

Q. You are not responsible for the stenographer's report?—A. No, I won't, for I know there are errors.

Mr. Moss.—There are some very gross errors?—A. What I have heard, whether that was the evidence or not, it was quite sufficient to satisfy me that what I say is correct; that was, that I didn't think they were carrying out the specifications.

Mr. Chrysler.—Let us get to that if we can; put it definitely; what do you say is the conclusion which was brought to your mind as the result of this examination and of those statements which you heard? Perhaps you have stated it in that written statement, if you desire to adhere to that?—A. I believe it is in that printed statement.

Q. Then that is in the passage, page 71 (Exhibit No. 1), of the proceedings of this committee; just pick out the passage; I know there is a passage in which you have summed this up?—A. (Reading from Exhibit 1):

> I resigned my position as chief engineer of the Transcontinental Railway for the reasons expressed in my two letters to the Commissioners of 25th and 26th June, 1909. I stated in my letter of the 25th June last that my recent trips over portions of Districts 'B' and 'F,' in connection with the arbitration, had led me to the conclusion that neither the general specifications, nor my instructions regarding classification, had been adhered to, but on the contrary large amounts of material had been returned as solid rock, which should only have been classified as loose rock or common excavation, and that material had been returned as loose rock which was or could have been handled by ploughing or scraping, and should have been returned as common excavation. I added that, on several residencies, there seemed to have been no attempt by the engineers to carry out my instructions and measure rock returned, either by showing the same on cross sections, or by measurements of individual pieces, but that they appeared to have simply guessed at the amount by taking percentages of the total cutting. Further, in some cases where cross sections were prepared showing ledge rock, same proved to be erroneous, resulting in a very much larger amount of the solid rock being returned than actually existed. Also, what is known as overbreak had been

returned in many places where it was caused by excessive use of explosives, and where the material was wasted this ought not to have been done. Under these circumstances, I declined to certify any further progress estimates in districts 'B' and 'F,' and resigned my position as chief engineer, stating that, in view of the general disregard of my instructions, I had lost confidence in that portion of the engineering staff who were responsible for the measurement, classification, supervision, and inspection of considerable portions in district 'B' and east of Rennie Crossing in district 'F,' lately gone over by me.

I based the statements contained in my resignation both on the facts admitted by the engineers on the ground, in May and June, 1909, in their sworn statements made in my presence, and also upon my personal examination on the ground. On my going over the work, in both Districts 'B' and 'F,' I found many cuttings and borrow pits where the classification made by the engineers was such that, from my professional experience of nearly thirty years, I could not agree with it. This was especially so in cuttings where ledge rock and other materials were shown on cross section sheets, but where, on the stations being pointed out by the engineers on the ground, no such ledge rock was found to correspond with such cross sections; or where, in order that a reasonably accurate measurement of such rock should be made, it was evident that more numerous cross sections should have been taken. In various places where assembled rock was shown on the cross sections, an examination of the material in the adjoining slopes showed no assembled rock such as indicated in my interpretation of clause 34 of the General Specifications, dated January, 1908. From my notes taken on the ground at the time, I have compiled some examples or illustrations of the objectionable classification.

In regard to my loss of confidence in a certain portion of the engineering staff, I may say that this was due to their failure to carry out, in accordance with my views, the terms of the General Specifications, and of my instructions and interpretations of clauses 34, 35 and 36 of the specifications. The engineers on the ground, who saw the work frequently while in progress, ought necessarily to be best qualified to make the classification, provided that they have the necessary experience and are honest; and, though I may doubt whether some of them had the necessary experience (as exemplified by the manner in which some cross sections were taken), I do not challenge the honesty of their intentions. However, being quite unable to agree with their classification in very many places, I preferred to resign my position and salary, rather than continue to certify to estimates which were not in my opinion correct or justified. As I was appointed chief engineer by the government (unlike the engineering staff who are appointed by the Commission), I considered it my duty to the Minister of Railways, when resigning my untenable position, to mention the reasons for my doing so.

Q. Well, is there anything you wish to add to that?—A. No, I don't think so.

Q. Can you give us any more of the details of it than you have already given?—A. In what way?

Q. Well, you say that you have further notes?—A. I have got notes, I think, of every cutting, except possibly one cutting, one or two cuttings, all I believe of rock, at the river that we went around the side of, that I don't know the name of.

Q. If you have the information as to every cutting, upon what principle do you make the selection of those you have given?—A. Because I picked out those that appeared to be the biggest difference.

Q. These are the serious cases, are they?—A. Yes.

Q. You examined these in May, District 'F,' most of it in May, and District 'B' in June, 1909?—A. Yes.

Q. When was the work commenced upon those contracts?—A. I think it was in 1906, but I am not positive of the date.

Q. Were they both commenced about the same time?—A. They were both commenced about the same time, I think.

Q. Mr. McArthur's name has been mentioned on District 'F.' Who was the contractor who had that portion of 'B' which you were examining?—A. Macdonnell & O'Brien.

Q. Was it all on their contract?—A. It was all on their contract.

Q. Have you looked over the documents which are printed in the Hodgin's committee report and in this return for the purpose of seeing whether all these documents are relevant to this inquiry?—A. I have looked over, I think, almost all the documents in the Hodgins inquiry and in the other.

Q. Have you called the attention of the committee to-day to those which you thought important?—A. I think so.

Q. Are you aware of any others that are important that you have not looked at?—A. I cannot think of any just at present.

Q. Well, is there any other fact that you desire to add?—A. No.

Q. You have discussed this matter with me since the committee met the other morning?—A. Yes.

Q. And we have gone into it for some length?—A. Yes.

Q. I think, so far as I can judge, that you have given to the committee all the matters that have been discussed between us; if you have not, I would like you to remind me of it?—A. I do not remember.

Q. We have discussed, perhaps at some length, the interpretation of the specification and the points of difference between yourself and the other engineers, and I am not sure whether it would be useful to the committee to ask Mr. Lumsden as to that. There are some points which I think I should ask him about. What is it that is referred to in this correspondence as overbreak, and how does it arise under the specification—the complaint that the engineers have in many cases, say, allowed material that should not be allowed, being what is referred to in this correspondence as overbreak?—A. Overbreak is a term I have only heard used for the last few years; in fact, only on this contract. I never heard of it before.

By Mr. Smith, K.C.:

Q. What do you call it, slips and slides?—A. It is almost invariably applied in rock cutting work—taking off the theoretical slopes.

Q. What do they call slips and slides?—A. Slips and slides are only the portion which cannot be avoided. They are taken off the toe of the slope and the rock may come down; those cannot be avoided.

Mr. CHRYSLER.—I have put in those clauses of the specification (Exhibit No. 6) referring to slips and slides, I think, at the beginning. What we want to know is if you can tell us the principal thing, 37 and 38: 'Material in slips, slides and subsidences, extending beyond slopes in cuttings will not be paid for unless in the opinion of the engineer such occurrences were beyond the control of the contractor and not preventable by use of due care and vigilance.' I understand you were referring to cases of material behind the slope line?—A. Yes.

Q. Cases in which the material is above the slope line, so to speak, falling down from the side of the hill above. It may be behind the slope line in one sense?—A. I do not quite understand you.

Q. Supposing a lot of material falls in from an overhanging cliff, that is a slide. Would that be an overbreak?—A. That would be legitimate to pay for that. I understood you to say it was overhanging the slope line.

Q. Supposing it overhangs that, it is behind the line of the slope, but it comes down because you have taken away the toe off it?—A. That is a slide.

Q. The specification applies to it according to circumstances?—A. Yes.

Q. Is there any other clause of the specification that you should look at, because

that point also is mentioned somewhere? If that material falls into the cut and is used in the embankment in the fill somewhere else, does that affect the question whether it should be paid for?—A. Yes, I think there is a clause in the specification.

Q. Whereas if it is wasted it should not be paid for unless in the opinion of the engineer it should be. Is that what that means?—A. I think there is a clause which refers to material taken off from outside the slopes.

Q. I do not see it.—A. I cannot be positive about it.

Q. I thought there was such a clause in cases of that kind where the material had fallen into the cutting and had been used. That is the clause which says it is to be paid in the state in which it is—A. 'Will be in accordance with its condition at the time of the slide regardless of its prior condition.'

Q. What is the number of that?—A. Thirty-eight.

Q. There is another one about the material being paid for if it is wasted, if it is not used.

Mr. MACDONALD.—That is the material from borrow pits, is it, that cannot be paid for?

Mr. CHRYSLER.—No, borrow pit is only taken for the purpose of putting in the work. It is in the letters that I find it and I do not find any other clauses of the specification referring to it. It may be the usage of engineers, I do not know, but is not there a difference, depending whether that material is made use of. Supposing a mass of it falls in and the contractor has to pick it up and carry it away under the direction of the engineer and uses it in making the fill?—A. Yes.

Q. Should that be paid for, according to this class?—A. If it were rock originally and a slide came down all broken, if it was not necessary in blasting and then taken and put into that, it would be all right. On the other hand, if it were outside the slope line and it came down and was not of any use, and was not used, or wasted, I do not think it should be paid for.

By Mr. Smith, K.C.—

Q. Even though it came down accidentally?—A. Not if it came down through the slide.

By Mr. Chrysler:

Q. If it were taken down through carelessness?—A. Yes.

Q. Within the control of the contractor?—A. Yes.

Q. Would that principle turn a lot of the correspondence and difference of opinion which was returned here with regard to excessive use of blasting material?—A. Yes.

Q. You might give us your opinion, because that is pointed to in another clause of the specification, for instance (Reads):

LARGE BLASTS.

The use of powder or other explosives in large blasts is prohibited, unless on written authority of the engineer. In the event of wasting of rock through any such blasting the contractor shall, if the material is required in the vicinity for the making up of embankments, of which the engineer shall be the judge, furnish at his own cost an equivalent amount of material for such embankments. One yard of rock in place being taken to equal one and a half yards of earth.

Mr. CHRYSLER.—I think that is all I wish to ask Mr. Lumsden now.

By Mr. Macdonald:

Q. Are we to understand that you have conferred fully and carefully with Mr. Chrysler, and put him in possession of all material that you have in command necessary to inform the committee about this matter?—A. I believe so. I have not given

him the whole of the notes I have in connection with this. I have only talked over what is referred to in these——

Q. But you put him in possession of all the information necessary to enable him as counsel to present your views to the committee?—A. I cannot say that for he is not my lawyer, but I have given him all the information connected with the case that I know of.

By Mr. Wilson:

Q. All the information you would give if he were your own counsel?—A. I do not say that, but I think I have. I do not think that I have held back anything from Mr. Chrysler that he asked of me, nor I do know that I have anything more to say to him.

Mr. CHRYSLER.—Can the committee say anything about Mr. Lumsden's attendance? Did you want to cross-examine him (to Mr. Smith)?

Mr. SMITH.—Yes, I have a few questions to ask him.

Mr. CHRYSLER.—Mr. Lumsden is anxious to get away. He would like to know when he will be required as far as it is possible to tell him.

Mr. SMITH, K.C.—Did you wish to go away for long?

Mr. LUMSDEN.—For some time.

The CHAIRMAN.—I wish to state that we will sit to-morrow at a quarter past eleven. The room will be free only from that time till one o'clock, perhaps a little after, and I think then we will have to adjourn till Tuesday morning.

Mr. SMITH, K.C. (to Mr. Lumsden).—We cannot work here on Sunday, the way you do on the road.

Mr. LUMSDEN.—So I see.

The CHAIRMAN.—I do not see that we can do anything better than that.

Mr. MACDONALD.—We will see to-morrow.

Committee adjourned.

FRIDAY, March 11, 1910.

The Committee met at 11 o'clock a.m., Mr. Geoffrion in the Chair.

The examination of Mr. HUGH D. LUMSDEN, resumed.

Mr. CHRYSLER.—Mr. Chairman, I think I might say in reference to the testimony of Mr. Lumsden that probably after the other witnesses have been examined, or after the examination of all witnesses, at some stage or other, we shall probably desire to hear Mr. Lumsden again before I have concluded what I consider my examination in chief.

The CHAIRMAN.—Very well. Mr. Smith, have you any examination to make of Mr. Lumsden now?

Mr. SMITH, K.C.—Yes, and I might say, Mr. Chairman, that this is not a cross-examination; this is an examination on behalf of the Commissioners.

The CHAIRMAN.—Yes.

By Mr. Smith:

Q. Mr. Lumsden, you of course are aware that this inquiry was granted at the request of the Transcontinental Commission?—A. I believe so.

Q. And they are desirous of obtaining from you all the information upon which you based your resignation?—A. Yes.

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Q. They desire to obtain from you fully anything which caused you to lose confidence in their staff?—A. Yes.

Q. You were the Chief Engineer of the work?—A. Yes.

Q. When were you appointed?—A. I think it was in August, 1904.

Q. Was that previous to any of the preliminary surveys?—A. There were preliminary surveys made by the Grand Trunk which were afterwards taken over previous to that date.

Q. Had the government done anything at all at the time when you were first appointed as Chief Engineer?—A. Not that I am aware of.

Q. Practically the first step on the part of the government was your selection and appointment as Chief Engineer?—A. Yes.

Q. Now, as such Chief Engineer, I suppose you were clothed with all the authority which such an official would usually have?—A. I presume so.

Q. That is to say you had the full responsibility for the work?—A. I presume so, under the Commissioners.

Q. As far as any relations between the government and the contractors were concerned your authority was supreme under the terms of the contract?—A. I presume so.

Q. Just to put the matter systematically, if you have the contract from there?—A. I have not got it here.

Mr. CHRYSLER.—It is not paged the same. Take the other one. (Handing contract to witness).—A. That is the 1909 edition is it, that you have got there?

By Mr. Smith, K.C.:

A. Yes, 1909. (Exhibit No. 6). Just to glance at a few clauses of this contract form, clause 1 defines the meaning of the word 'work'?—A. Yes.

Q. (Reads): 'In this agreement the word 'work' or 'works' shall, unless the context requires a different meaning, mean the whole of the work and materials, matters and things required to be done, furnished and performed by the contractor under this contract.' That is broad in its terms? Then of course we have the proviso that the word 'Engineer' or 'Chief Engineer' when used in this agreement or in the specifications hereunto annexed shall mean the Chief Engineer of the Commissioners?—A. Yes.

Q. 'Acting as such either directly or through the Assistant Chief Engineer' and so on?—A. Yes.

Q. Then 'All instructions or certificates given, or decisions made by any one acting under the authority of the Chief Engineer shall be subject to his approval'?—A. Yes.

Q. And 'may be cancelled, altered, modified, and changed as he may see fit'?—A. Yes.

Q. The contract form itself clothed you with absolute authority in dealing with the contractors, did it not?—A. Yes.

Q. 'In all cases where the contractor or the Commissioners are dissatisfied with the decision of the Engineer or Inspector in immediate charge of the work, an appeal to the Chief Engineer may be made'?—A. Yes.

Q. So that you were the supreme authority as you said a moment ago, under the Commissioners in a certain sense, or the Chief Executive officer upon whom rested the responsibility of this great work?—A. Yes.

Q. I will not read it, but we notice that clause 10 provides that the work is to be under the control of the Engineer?—A. Yes.

Q. Contractors are to comply in all things with his instructions?—A. Yes.

Q. And again in clause 15 it is provided 'that the Engineer shall be the sole judge of the work and material in respect of both quality and quantity and his decision in all questions in dispute with regard to work or material shall be final.' And we

see further 'that the contractor shall not be entitled to payment for any changes or additional works unless the same have been executed to the satisfaction of the Engineer, and unless a certificate be granted' ?—A. Yes, a certificate in writing.

Q. Then in clause 34, providing for payments, will you say whether that clause is not a little fuller than even such clauses are usually in contracts with regard to granting progress estimates upon the certificate of the Engineer for the work done. It is very ample in its terms, is it not?—A. Yes, but I don't know how it would compare with other contracts.

Q. The comparison is immaterial?—A. I don't know how it would compare with other contracts.

Q. But clause 39 is material?—A. Yes.

Q. (Reads): 'The progress measurements and progress certificates shall not in any respect be taken as binding upon the Commissioners, or as final measurements, or as fixing final amounts; they are to be subject to the revision of the engineer in making up his final certificate, and they shall not in any respect be taken as an acceptance of the work or release of the contractor from responsibility in respect thereof, but he shall, at the conclusion of the works, deliver over the same in good order, according to the true intent and meaning of this agreement'?—A. Yes.

Q. So that the payment upon progress estimates, progress measurements even was not binding upon the Commissioners?—A. No.

Q. And under clause 34 there was a drawback as security to the Commissioners?—A. Yes.

Q. Then, I think there was furthermore a lien upon all the plant, machinery and so on?—A. Yes.

Q. So then the position, as far as you were concerned as Chief Engineer, was this, that the progress estimates provided for a hold-back of a certain proportion as security to the government. There was the additional security of all the plant, material and machinery belonging to the contractors?—A. Yes.

Q. And there was a proviso that the progress estimates were not binding on the government?—A. No.

Q. Now, you will be able to tell us something about the appointment of your various assistants. We will take two sections that are in question—Section 'B' and Section 'F.' Mr. Doucet was district engineer of Section 'B'?—A. Yes.

Q. I think I understood you to say that he had jurisdiction under you over the whole of Section 'B'?—A. Yes.

Q. And Mr. Poulin was the district engineer of Section 'F'?—A. Yes.

Q. Having jurisdiction over the whole of that section under yourself?—A. Yes.

Q. Was Mr. Doucet appointed after you were appointed?—A. Yes.

Q. He was appointed, I suppose, by the commissioners?—A. Yes.

Q. Did you recommend him?—A. I believe so.

Q. And Mr. Poulin, in the same way, was appointed on your written recommendations, as they appear in your letter of Septtmber 24, 1907, addressed to the commissioners?—A. Yes.

Q. So that the appointment of these two chief executive officers under you was made upon your recommendation with your entire approval?—A. Yes.

Q. Now, with regard to the other engineers who were appointed on District 'B' and District 'F'—we will take 'B' first. Were those engineers and division engineers and resident engineers appointed in the same way upon your recommendation?—A. Well, yes; many of them I did not know at all. They were suggested frequently by the district engineers, and the names were submitted to me and I put them into the commissioners for approval. Many of them I did not know, or know anything about .

Q. The commissioners did not appoint engineers upon their own initiative?—A. Well, I don't say that they may not, some of the resident engineers. I think there were, some of them may have been appointed that I knew nothing about, but I might say they were appointed before I knew anything about it.

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Q. You say there may have been, but do you know?—A. I do not remember positively any case, but I rather think there were.

Q. Can you recall any case at all where the commissioners made an appointment without your recommendation or your approval?—A. Are you referring to those two particular sections?

Q. Those two particular sections. I want to limit our inquiry?—A. I cannot be positive on those two particular sections.

Q. Of course, you understand, Mr. Lumsden, that my instructions necessarily are to investigate only those things that influenced your mind in resigning your position and in stating that you had lost confidence in your engineering staff?—A. Yes.

Q. And you mentioned a portion of 'B' and District 'F'?—A. A portion of 'F.'

Q. A portion of 'F,' yes, and a portion of 'B'?—A. Yes.

Q. So that I must necessarily confine my inquiry to the matters that influenced you in sending in your resignation; and you cannot recall any instance when the Transcontinental Commissioners made the appointment of an engineer without consulting you upon District 'B' and District 'F'?—A. I cannot state positively now.

Q. At all events, Mr. Lumsden, you never had occasion to complain, and you never did complain of the action of the Commission in interfering with the appointment of engineers?—A. No, I don't think I ever did. Individually the Commissioners made some objection to some men in there, but I don't think I ever did.

Q. Remember, I have asked you to give us all the information you possibly can, and I would be very sorry to circumscribe you in any way, but if you do not know a thing, I would suggest to you not to say, 'I may have done so.' If you do know, tell us and tell us all about it, but if you cannot recollect it, I think it would be fairer to say, 'I have no recollection of it'?—A. Well, I will say that in this case, I cannot be positive about it.

Q. Now, I have in my hands a copy of a letter written by you on September 8, 1904, addressed to the Commissioners of the Transcontinental Railway, as follows:—

EXHIBIT No. 30.

OTTAWA, Sept. 8, 1904.

The Commissioners of the Transcontinental Railway.

SIR,—I beg to recommend to the Commission the following appointments:—

M. J. Butler, C.E., LL.D., to be assistant chief engineer, at a salary of $375 per month, with expenses when away from headquarters.

A. E. Doucet, C.E., to be district engineer for the district extending from the boundary between New Brunswick and Quebec to Clear lake, in the province of Quebec, at a salary of $333.33 per month, with expenses when away from headquarters.

A. E. Molesworth, C.E., to be district engineer for the district westerly from Clear lake to the Ontario boundary, at a salary of $333.33 per month, with expenses and board when in the field, and the following engineers in charge of parties at a salary of $200 per month, with expenses and board when in the field:

Ben. Bourgeois,
Charles Gordon,
C. LeB. Miles,
G. R. Balloch,
E. A. Hoare,

and that C. O. Foss be also appointed engineer in charge of a party, his salary to be arranged later.

I have the honour to be,

HUGH D. LUMSDEN,
Chief Engineer.

F. B. WADE, Esq., K.C.,
Chairman, T. C. Commission.

Q. You will recognize that as a true copy of that letter?—A. I think it is highly probable.

Q. On December 13, 1907, you wrote to the secretary of the Commission the following letter:—

EXHIBIT No. 31.

OTTAWA, December 13, 1907.

The Commissioners of the Transcontinental Railway.

P. E. RYAN, Secretary.

DEAR SIR,—I beg to hand you herewith four copies of a list of changes in the engineering staff from 1st of January, 1907, to date.

The only addition to the Headquarters Engineering Staff was the appointment of Mr. Gordon Grant as inspecting engineer; any other additions or changes were in minor positions.

Yours truly,

HUGH D. LUMSDEN,
Chief Engineer.

Q. Then you put in a list which was then attached, informing the Commission of any changes in the staff that had taken place. I am putting this as a matter of custom. Throughout engineers were appointed by the Commission upon your recommendation?—A. Well when you say generally I am not positive of that; it might be a minor position, such as the residents. I think there were some residents, but I cannot say positively whether they were on the section referred to, who were on the work before I knew of it.

Q. That is quite probable but you see what I want to get at. I want to get at a full and fair statement of what the rule was with regard to the appointment of these engineers, if they were appointed on your recommendation to the Commission? —A. Yes, that was the rule. I won't say that, without exception.

Q. As you have already pointed out there may have been some appointed by district engineers before you got there?—A. Yes.

Q. I will ask the committee's permission to put another letter which is a little out of its order, it is dated June 20, 1906. It should have gone in with the others.

EXHIBIT No. 32.

OTTAWA, June 20, 1906.

The Commissioners of the
Transcontinental Railway,
Ottawa, Ont.

SIRS,—I beg to recommend the following appointments of divisional and resident engineers in District 'F':—

Division No. 5.

J. A. Heaman, division engineer.
H. Jefferson, resident engineer, residency 20.
J. McHugh, resident engineer, residency 21.
W. M. Wilkie, resident engineer, residency 22.

Division No. 6.

F. J. McIntosh, division engineer.
W. W. Mack, resident engineer, residency 23.
A. P. Millar, resident engineer, residency 24.
W. F. Ross, resident engineer, residency 26.

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Division No. 7.

A. G. Macfarlane, division engineer.
F. P. Moffatt, resident engineer, residency 27.
E. J. Boswell, resident engineer, residency 28.
A. Sunstrum, resident engineer, residency 29.
M. C. Macfarlane, resident engineer, residency 30.
A. H. Willet, resident engineer, residency 31.

Division No. 8.

C. LeB. Miles, division engineer.
W. Harrison, resident engineer, residency 32.
E. R. Blackwell, resident engineer, residency 33.
G. Scott, resident engineer, residency 34.
W. B. MacKay, resident engineer, residency 35.

Division No. 9.

N. B. MacTaggart, division engineer.
H. G. Jackson, resident engineer, residency 36.
H. Brunlees, resident engineer, residency 37.
E. R. Milledge, resident engineer, residency 38.
D. A. McDougall, resident engineer, residency 39.

Your obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.'

Q. Now, those are recommendations which you made to the commission?—A. Yes.

Q. Those are all in District 'F'?—A. Yes.

Q. That is filed as Exhibit 32?—A. Yes.

Q. Then sometimes the district engineers would make recommendations to you and you would endorse them?—A. That was generally done from the fact that a great number of those men I knew nothing of. I never heard anything of them until——

Q. On November 16, 1908 you wrote the following letter to the Commissioners.

EXIBIT No. 33.

OTTAWA, November 16, 1908.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—I beg to submit for your approval the accompanying letter from District Engineer Poulin, recommending that Mr. T. J. McIntosh, division engineer, Division No. 6, be appointed assistant district engineer to succeed Mr. A. G. Macfarlane, who has been appointed district engineer, District 'D,' and that Mr. W. W. Bell, resident engineer, residency No. 26 be appointed to take over Mr. McIntosh's duties; Mr. L. Johnson, now instrument man with Mr. Bell, to take Mr. Bell's place.

Yours obedient servant,

HUGH D. LUMSDEN,
Chief Engineer.'

Q. Now, in that case you tell the Commissioners that you are doing this upon Mr. Poulin's recommendation?—A. Yes.

Q. In the others they go in as your own recommendation?—A. Yes.

Q. But I think if the details of correspondence were followed out back of that, that I have letters generally from district engineers recommending these men.

Q. As far as the Transcontinental Commission is concerned, these recommendations go to them with your full approval and recommendation?—A. Yes.

Q. And they act not upon the recommendations of the district engineers but upon your recommendation?—A. Yes.

Q. Some of these engineers that have been mentioned in this letter which is now produced were engaged, I suppose, under the original and preliminary surveys, were they not?—A. Yes.

Q. So that they had experience, many of them, not all of them of course, but many of them had had experience of the locality, of the character of the soil, and character of the material to be moved before they became engineers upon construction at all?—A. Yes, they had had more knowledge of it than a stranger would have.

Q. They would have more knowledge for instance than an outside engineer coming upon the ground for the first time?—A. Yes.

Q. As Mr. Chrysler asked you to state yesterday, there were other engineers that had an interest in this work, appointed by the Grand Trunk Pacific?—A. Yes.

The engineers appointed by the government through the Transcontinental Commission would naturally incline, I suppose, to keep the cost of the work down as much as possible?—A. They ought to.

Q. It would be their duty to do so?—A. Yes.

Q. That is, consistently with being just to the contractors?—A. Yes.

Q. The engineers for the Grand Trunk Pacific had no direct relations with the contractors at all, had they?—A. No, except where there were contractors themselves.

Q. That is not in this district. I am referring to this district?—A. No. I beg your pardon.

Q. In the western district of course they had a very substantial interest?—A. Yes.

Q. But, Mr. Lumsden, as far as districts 'B' and 'F,' which we are now investigating, are concerned, they had no relation with the contractors at all?—A. No.

Q. Their whole interest lay simply in keeping the cost down, did it not?—A. Yes.

Q. Inasmuch as the rental which the Grand Trunk Pacific was to pay was to be determined as a percentage upon the cost of the work?—A. Exactly.

Q. So then you had two classes of engineers whose duty called upon them to see that the work was completed as cheaply as it reasonably could be?—A. Yes, sir.

Q. Now, you made a statement in your letter of resignation, to which reference has been made several times, that you lost confidence in your engineering staff, and I asked you on the first day whether it was possible for you to give us any additional names beyond those that you gave us on the second day of the meeting of this Committee?—A. Yes.

Q. You say that some information could be got from the records of the commission. In examining your own papers and books of reference and memoranda have you come upon the names of any other engineers at all that you lost confidence in?—A. I know the names of some others, but I don't know exactly the ground they cover.

Q. Mr. Lumsden, I suggested that you should visit the office of the commission for the purpose of refreshing your memory, examining their records and getting any further information to obtain these names?—A. Yes.

Q. Did you do so?—A. I did not.

Q. Well, I have had a careful examination of all the records in the possession of the commission, and I have been furnished with statements and names of all the engineers, of the resident or divisional engineers, who classified in any of the stations referred to in the list that you produced; now I will ask you if you will be kind enough to look at this and see whether they refresh your memory, and whether you have anything to say with respect to these particular engineers. I file the statement showing, as far as it is possible to find out from the records in the possession of the

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commission, all the engineers who did any classification in any of the stations that you have objected to that is in District B?—A. (Examining statement, Exhibit 34) I remember a good many of these names, if not most of them, but I cannot say as to their localities being correct, but I presume that they are.

EXHIBIT No. 34.

CUTS MENTIONED BY HUGH D. LUMSDEN

3001–15, 3033–43, 3050–56, 3091–94, 3126–44, 3210–44 — *Residency 21,* Mile 50 to 65: L. Hurtubise, Res. Eng., June, 1906–May, 1908; still employed in another division.

3270–75, 3516–21, 3616–23 — *Residency 22,* W. R. Chisholm, Res. Eng., June, 1906–June, 1907; left.
E. J. Bolger, Res. Eng., June, 1907–Jan. 1909; chainage 3002–3696; still employed in another Residency.

3851–58, 3945–55, 4063–71 — *Residency 23,* C. F. K. Dibblee, Res. Eng., June, 1907–Sept., 1908; transferred to District A.
D. S. Scott, Res. Eng., Sept., 1908, to date; chainage 3696–4376; still employed.

5239–46, 5324–28 — *Residency 25,* G. E. Howie, Res. Eng., July, 1906–Aug., 1907; left.
G. B. Whitehead, Res. Eng., Aug., 1907–April, 1908; left.
J. F. Pringle, Res. Eng., April, 1098, to date; chainage 4694–5760; still employed.

5818–26, 5842–58 — *Residency 26,* A. R. Matthews, Res. Eng., July, 1906–Dec., 1908; left.
R. Girouard, Res. Eng., Jan., 1909, to date; chainage 5760–6267; left.

6761–70, 6774–81, 6782–88, 6789–93, 6815–20, 6824–30, 6841–48, 6920–24, 6902–12, 6915–17, 6947–59, 6963–69, 7033–36, 7041–46, 7052–62 — *Residency 28,* Alan Timbrell, Res. Eng., April, 1907-June, 1908; still employed.
H. B. Cressman, Res. Eng., June, 1908, to date; chainage 6660–7160; still employed in another Residency.

Residency 27, E. P. Girdwood, Res. Eng., Dec., 1906–June 30, 1909; chainage 6267–6660.

General: 5050·30–6848, Residencies 25, 26, 27, 28, names as above.

Certified correct,

A. E. DOUCET,
District Engineer 'B.'

Q. Is there anything, Mr. Lumsden, further than the records of the Commission, which would indicate which engineer classified at any particular station?—A. No, I

can't say that. I can say nothing about what stations they covered; that is where I am at a loss. In some cases I may have a note that so and so's residency began here, but in many cases they were not the engineers who made the classification, they were the men who were then on that same residency, but this extends on where they have two men on, for instance take residency 22, W. R. Chisholm was on June, 1907, and then Bolger was on from June, 1907, to June, 1909.

Q. Is there any means now in existence of determining which of those two classified any particular cut; can you do that?—A. I can't do it. I should think that they could do it in the office. They can tell the dates on which the classification was made and the months the returns were made in.

Q. Those are the dates when they were on each of those stations?—A. Yes, then it required to know what time the work was done and when it was classified, for I can't tell that.

Q. That is a difficulty that I foresaw from the first—whether it is possible to fix any particular cut as to when it was classified?—A. The progress profiles should show in a general way when that work was done——

Q. In a general way; but if you are to get down to minute particulars there is going to be difficulty?—A. There is.

Q. Now I am putting in your hands all the information that I can collect as to these various engineers who have classified, and if you can suggest anything to the committee that will assist you I will put that information in your hands?—A. Well, I can't suggest anything except that both must have classified some part of it, but which is the one that made that classification that I object to, or whether they both did, I can't tell.

Q. At all events you recollect the names of those?—A. I recollect the names of a great many of them but many of them I must say I don't know.

Mr. CLARKE.—Don't they sign something showing classification?

Mr. SMITH.—There will be progress certificates between the different stations, but just exactly when a classification was made and when a certain cut was blasted out I think it would be very difficult if not absolutely impossible to tell.

Mr. MACDONALD.—It would be very desirable, it seems to me, as Mr. Lumsden has undertaken to impugn certain gentlemen's names, that the very first thing we have to do in investigating these matters is to report to parliament the names that are impugned. Mr. Lumsden ought to look up and make it more definite than he has done. He ought either to say these are all the names he complains of, or that they are not.

Mr. SMITH.—That is what I am trying now to clear up, and I am putting before Mr. Lumsden all the information that I can get.

Q. Do you think you could get any more out of the monthly returns? They would bring it a little nearer, wouldn't they?—A. Well, you might by the monthly returns see whether any big jump was made in the classification.

Q. What do you mean by 'any big jump'?—A. That it is changed from one classification to another in any one month, that is for work that had been previously done.

Q. But you do not suggest that such a thing was done?—A. There is no question that sometimes the classification was changed.

Q. What is the basis of it?—A. That is to say, in one month there were so many yards of rock, so many yards of loose rock, and so many yards of cemented material—a definite amount; and the next month there was so much work done on it, but in some cases, the classification was changed, and raised or lowered as the case might be.

By Mr. Macdonald:

Q. You mean from the previous month?—A. Yes. Covering what was done in the previous month.

APPENDIX No. 3

By Mr. Smith:

Q. But you do not suggest now to the committee that the classification varied as far as the system or principle upon which it was made was concerned?—A. It was varied sometimes from the division engineer going over the work with the resident who had sent it in the month before, and he might change the classification.

Q. Upon estimate of the actual quantity, or of the character of the material?—A. Exactly, he changed the classification of it.

Q. He revised, but do you suggest that the district engineers or the division engineers varied the standard or principle upon which they made their classification?—A. They changed the figures; they made different figures.

Q. That may be upon a revision; applying the same principle they may have reached a different result?—A. Yes, a difference in money value.

Q. But you do not suggest to this committee that any of those engineers varied from time to time the standard or principle upon which they made the classification, do you?—A. Well, I assume that they were intending to carry out the specifications; I can see nothing else; but there were big changes made in the figures, that made that difference in the result.

Mr. CLARKE.—That is, the figures for the same work. The superior officer would come along and revise the figures?

By Mr. Smith:

Q. As a matter of fact that is done in all engineering work, isn't it?—A. Yes.

Mr. Moss.—That is part of what he is there for.

By Mr. Smith:

Q. My learned friend, Mr. Moss, suggests that is part of his duty?—A. Yes.

Q. So that of course that had no influence on your mind in causing you to lose confidence, when they were doing what it was their duty to do?—A. Not that part of it, as long as the final result would have agreed with my idea of it.

Q. And of course you were not aware of any variations at that time in the returns which had any difference on you?—A. In only one or two cases. You will see in some of the evidence one engineer, I forget whether it is Mr. Miller or Mr. Bell, stated that he had raised the classification in clay on instructions from the division engineer, that is in some of them.

The CHAIRMAN.—He stated what?

Mr. SMITH.—That he had raised the classification of clay.

By the Chairman:

Q. When and where?—A. In some of that evidence that is in.

Mr. Moss.—We get back to that very objectionable document again.

The CHAIRMAN.—That is a very fine point, I think.

Mr. SMITH.—Mr. Chairman, when the question arose before this committee concerning even the putting into the records of the statements taken under oath of those engineers out of the road, I then stated that in my humble opinion it would not be regular to put that upon the record, but I was in this position, that it might create a false impression of the genuineness of the inquiries if I objected to its going in, and I therefore withdrew the objection, and it was allowed to be produced, not as evidence but for the purpose of reference.

By Mr. Smith:

Q. I am informed that this exhibit (No. 34) is merely a list of the names of engineers in addition to those you named in your evidence, and the only one you named in 'B' was Bourgeois?—A. Yes; I don't know which of those residents were under Bourgeois or under somebody else.

Q. Was Bourgeois a division engineer?—A. Yes, he was a division engineer; Mr. Doucet can tell, I think.

Q. And Mr. Bourgeois was one that you specially named as a man you had lost confidence in?—A. Yes.

Q. And I might incidentally add that Mr. Bourgeois was one of those that you recommended for appointment to the Commission?—A. Yes; I didn't know Mr. Bourgeois; I had never seen him; he was suggested to me, I think probably by the district engineer.

Q. At all events Mr. Bourgeois was appointed by the Commission upon the strength of your recommendation?—A. Yes, I suppose so. I think the Commission —no, not in Mr. Bourgeois' case—I was just thinking of a different one that was appointed later on, but he was not; he was one of the first.

Q. His name is mentioned in your letter there, and you recommended him for appointment?—A. Yes.

Q. And he was the only one in section B in whom you had lost confidence?—A. Yes, in connection with that evidence that was put in, he was the only one from whom we took evidence.

Q. You might now look, if you will, at the list of engineers in District F; I am informed that this includes all the names; you will be able to tell whether it gives the names of those that you mentioned as having forfeited your confidence?—A. (Examining Exhibit 35). I remember most of these names, but I don't know the men—I don't know all the men; some of them I don't know that I have ever seen.

Q. At all events you can say whether in your opinion, from what you do know, that covers all the names that you know?—A. As far as I know. I don't recall any others.

Q. You don't recall any other engineer who acted on District F other than those names?—A. No.

Mr. SMITH.—I will make evidence later, that those are the names of all the engineers who classified.

WITNESS.—I have no reason to doubt that statement at all.

Mr. SMITH.—I now file this statement as Exhibit 35. (*See* following page.)

Q. Exhibit 34, p. 195, gives the period during which each engineer was employed; for instance, the first one, Hurtubise, from June, 1906, to May, 1908?—A. Yes.

Q. In May, 1908, you had not at that time lost confidence in your engineers?—A. In May, 1908, no.

Q. Consequently, Mr. Hurtubise had left the employment of the Commissioners altogether before you had had reason to lose confidence?—A. What station does Mr. Hurtubise cover?

Q. 3001 to 3015, and 3033 to 3043?—A. I never saw that work up till 1909.

Q. Then we come to Mr. Chisholm; he was employed from June, 1906, to June, 1907; so necessarily he had left that residency. Now, look at Exhibit 35, page 199, being the district engineers of District F; Miles, the first-mentioned engineer, left the service in 1907?—A. Yes.

Q. So, of course he had nothing to do with your losing confidence in him?—A. No.

Q. Macfarlane and Crawley are both still employed; Scott left the service in October, 1908; some of his work may be in question?—A. It may be, I cannot tell.

Q. But can you tell me by just looking at the stations there?—A. They don't give the date when they left those sections for which the stations were given. They give the dates when they were appointed, but they don't give the date when they left the stations. For instance, take the next one after Mr. Scott—A. Sunstrum—he was appointed in June, 1905, but he is still employed as division engineer on 'D.' That would not be on that work at all; but when did he leave between stations?

Q. Referring again to Exhibit 34, I find that Mr. Hurtubise is mentioned as still employed on another division?—A. Yes.

EXHIBIT No. 35.

DISTRICT "F", DIVISION 8.

Resident or Divisional Engineer.	Title.	Res.	Station to Station.	Date Appointed.	By whom recommended.	Still employed or date left service.
C. Le B. Miles	Divisional Engineer	8	7550—09—9825	September, 1904	H. D. Lumsden	Left service April, 1907.
M. C. Macfarlane	" "	8	7550—09—9825	June, 1906	"	Still employed.
E. Crawley	Resident Engineer	35	9293 —9825	August, 1905	"	"
G. Scott	" "	34	8706—20—9293	December, 1905	"	Left service October, 1908.
A. Sunstrum	" "	34	8706—20—9293	June, 1905, September 15, 1908, to December, 1908.	"	Still employed as Div. Engineer, "D".
E. R. Blackwell	" "	33	8127 —8706—20	October, 1904	"	Left service June, 1909.
J. F. Earle	" "	33	8127 —8706	May, 1906	No record	Still employed.
Wm. Harrison	" "	32	7550—09—8127	November, 1905	H. D. Lumsden	Left service June, 1909.
E. W. Reed Lewis	" "	32	410—15—8127	January, 1906	"	Still employed.

DISTRICT "F", DIVISION 7.

A. G. Macfarlane	Divisional Engineer	7	410—15—2430	January, 1905	H. D. Lumsden	Still employed as Inspecting Engineer.
G. L. Mattice	" "	7	410—15—2430	April, 1905	"	Still employed as District Engineer "D".
A. H. Willet	Resident Engineer	31	360 —403	March, 1905, Jan. 1, 1909	"	Assistant District Engineer "D".
R. R. C. Boyer	" "	31	360 403	December, 1905	No record	Still employed as Resident Engineer.
C. Tupper	" "	30	944 360	June, 1907	"	Left service March, 1908.
H. R. Phipps	" "	30	944 360	June, 1905	"	Still employed at Res. 30.
E. R. Milledge	" "	29	1414 944	September, 1904	H. D. Lumsden	Still employed as Divisional Engineer, "D" April 1, 1909.
A. M. Phillips	" "	29	1414 944	October, 1904	No record	Left service February, 1910.
A. Sunstrum	" "	28	1950 1414	June, 1905	H. D. Lumsden	Still employed as Divisional Engineer "D".
T. D. Henderson	" "	28	1950 1414	May, 1905	No record	Still employed as Resident Engineer "D".
G. L. Mattice	" "	27	2430 1950	April, 1905, Sept. 1, 1909	H. D. Lumsden	Still employed as District Engineer "D".
H. L. Bucke	" "	27	2340 1950	January, 1905	"	Still employed as Divisional Engineer "F".

DISTRICT "F", DIVISION 6.

F. J. McIntosh	Divisional Engineer	6	2467 4762	January, 1905	H. D. Lumsden	Still employed as Assistant District Engineer "F".
W. W. Bell	" "	6	2467 4762	August, 1906	"	Still employed as Divisional Engineer "F".
W. W. Bell	Resident Engineer	26	4230 4762	August, 1906	"	" " "
L. Johnson	" "	26	4230 4762	January, 1906	"	" " "
A. P. Millar	" "	25	3503 4230	February, 1905	"	" " "
W. W. Mack	" "	24	2971 3503	December, 1905	"	" " "
W. F. Ross	" "	23	2467 2971	January, 1905	"	" " "

DISTRICT "F", DIVISION 5.

J. A. Heaman	Divisional Engineer	5	150 2467	February, 1905	H. D. Lumsden	Left service November, 1905.
G. F. Richan	" "	5	150 2467	February, 1905	No record	Still employed.
W. M. Wilkie	Resident Engineer	22	1920 2467	February, 1905	H. D. Lumsden	Left service October, 1907.
J. B. Phillips	" "	22	1920 2467	January, 1905	"	Still employed.
F. W. Pearson	" "	21	1250 1920	June, 1907	No record	"
J. W. Chappelle	" "	20	686—40—1250	July, 1905	H. D. Lumsden	Left service August, 1909.
J. McHugh	" "	19	150 685—45	February, 1905	"	Left service.

Q. Mr. Chisholm, who was on residency 22, left finally in June, 1907?—A. Yes.

Q. Bolger is still employed on another residency; do you know him?—A. Yes.

Q. Dibblee was transferred to District A; do you remember anything about him?—A. I think there was a transfer of one man from A to B and another man from B back to A, and I think Dibblee was the man, but I am not positive.

Q. Scott is still employed by the Commission; Howie and Whitehead, residency 25—Whitehead succeeded Howie, and Pringle succeeded Whitehead; Howie and Whitehead have both left altogether; do you know anything about them?—A. No.

Q. Howie left in August, 1907, and Whitehead in April, 1908, so they will not be in question here, will they?—A. Well, I can't say about a man in April, 1908. It is not probable he would be very much in question. I don't know how far the work was in progress on that date—how much work between those particular stations was done at that time.

Q. Of course you were not influenced in resigning because you had lost confidence in men who were no longer in the service at all, naturally?—A. Well, I might have lost confidence in the way they had done their work even though they had gone.

Q. Yes, but, Mr. Lumsden, supposing that they had all gone; you would not go because men who had done their work badly had left the service, would you?—A. Oh, no.

Q. Then Mr. Matthews and Mr. Girouard both appeared to have left; Timbrell and Cressman are still employed; Timbrell is on another residency in the same section, and Girdwood appears to have been employed upon this residency 27 up to June, 1909?—A. Yes.

Q. Most of the men, if not all of them, that are objected to by you were appointed upon your recommendation to the Commission?—A. Yes, I noticed several in District 'F' were. They were questionable; I don't know whether they were or not; there seems to be no record of them.

Q. I have not your letters recommending them?—A. No.

Q. Now, before we go any further, you of course know Mr. Doucet very well?—A. Yes.

Q. You have known him for a great many years, haven't you?—A. Yes.

Q. You did not mention his name as among those that you had lost confidence in?—A. I did not mention his name. No.

Q. Then I take it that you have not lost confidence in Mr. Doucet?—A. Well, in so far as his supervision over those under him.

Q. Well, Mr. Lumsden, why didn't you mention his name?—A. Well, if he is not responsible for the supervision of it, why was his name not mentioned; if he is, it was not his name, but I mean to say I made a statement of those who were responsible for the supervision. I could mention a number of those names; I could not tell in most cases what district they referred to.

Q. But take the case of Mr. Doucet to start with. Mr. Doucet was a very well known engineer before he was on this work at all?—A. Yes.

Q. For a great many years?—A. Yes.

Q. And you have known Mr. Doucet in connection with the Canadian Society of Civil Engineers and every other engineering interest in the country for many years?—A. I have known Mr. Doucet for a number of years.

Q. It was not because you did not remember Mr. Doucet's name that you did not mention him?—A. No.

Q. Now, I would like to get something a great deal more definite, Mr. Lumsden, than simply the general statement that you objected to anybody who was responsible whoever he was. You as chief engineer must have known who was responsible?—A. Well, I take it that every one from the resident engineer up to the assistant engineer was in a more or less degree responsible.

Q. Well, you would have mentioned first of all to this committee the district

engineer who was your chief executive officer in district 'B?'—A. I mentioned the parties who were responsible. I would first of all—I might have mentioned the inspecting engineer.

Q. The inspecting engineer was Mr. Grant, was he not?—A. Yes. I might have mentioned those. They were only in a degree responsible. The men who were principally responsible were the resident and the division engineers.

By Mr. Moss:

Q. Why stop at the inspecting engineer? Why not go on to the chief engineer? —A. It would finally come back to me, there is no doubt about that. I do not——

By Mr. Smith:

Q. Do you say Mr. Doucet was responsible in the same way that you yourself were?—A. Well, no. Of course I think he could not be responsible for all the details of it.

Q. He could not be?—A. I must say he was only nominally responsible for the details of it, for those under him, the same as I would be for anything done by them in the same way.

Q. Well, as a matter of fact, had you lost confidence in Mr. Doucet?—A. Well, not as—not to a certain extent I had not.

Q. Not to a certain extent will hardly do, Mr. Lumsden. Had you lost confidence in his integrity as an engineer?—A. No.

Q. Never?—A. No.

Q. Had you lost confidence in his conscientiousness as an engineer?—A. No, I cannot say I had.

Q. But you say that he was to a certain extent——?—A. I lost confidence in his carrying out the specification according to my interpretation of it.

Q. According to your interpretation?—A. Yes.

Q. Well, now, I might repeat the same questions with regard to Mr. Huestis, who was assistant district engineer in district 'B.' You knew Mr. Huestis, of course?—A. Since he has been on that work. I don't think I knew him before he was on it.

Q. You have been brought into contact with him in connection with this work? —A. Yes.

Q. So that, of course, you knew Mr. Huestis. You were asked by the committee to give the names you knew, but you did not mention his name?—A. No, for I took it he was covered by his being responsible for the supervision of the work, but I cannot tell now the exact district that Mr. Huestis was on.

Q. Is not Mr. Huestis assistant district engineer?—A. Yes, for a time, at any rate. They had a certain district they went over. One went over one part and another went over another. That is my recollection of it.

Q. But, Mr. Lumsden, you will forgive me for saying it, I should have thought that you as chief engineer would remember that and would have known it; you would know the duties of those under you?—A. I think the duties—my recollection of it is that the assistant district engineers of 'B' had certain portions of 'B' assigned to them to look after. I think that was correct.

By the Chairman:

Q. Would you allow me, Mr. Smith, to ask one question? You say in your letter of June 26, 1909: 'Referring to my letter of yesterday wherein I stated that I have lost confidence in the engineering staff, I beg to state that this does not apply to the whole staff, but applies to only a portion of the staff?'—A. Yes.

Q. Well, now, it appears, and of course you may have had your reasons for stating what you did, that there is a portion of the engineering staff in whom you had

not lost confidence, but you do not now seem to be very clear about it; you seem now to say that you had lost confidence in general in every one of them, almost every person that had something to do with that work?—A. With that work that was referred to.

Q. Who formed the balance in whom you had not lost confidence?—A. Those who were not on that work.

Q. Who were not on that work?—A. Yes.

Q. In districts 'F' and 'B'?—A. Yes.

By Mr. Macdonald:

Q. Well, then, it is only the persons who were on certain sections?—A. On the sections I had gone over. I had not seen the others and could not tell what they might be.

By Mr. Smith:

Q. As chief engineer, Mr. Lumsden, did you not charge yourself with seeing what division of the work was made, what district engineer or what district assistant engineer had charge of certain portions of the work; was that not under your control?—A. I did not make any division, to the best of my knowledge, between the assistant district engineers. I mean to say the district engineer arranged himself with one district engineer to look after one section of the district, and another looked after the other.

Q. Well, you say to the best of your knowledge?—A. That is to the best of my knowledge.

Q. But, Mr. Lumsden, in such important work as that you do not remember whether you had done it or not?—A. I don't remember giving any instructions regarding the division of the district between the assistant district engineers; I left that for the district engineer himself to do.

Q. And as a matter of fact now you are unable to tell the committee what proportion of the work Mr. Huestis had to do with and what he had not to do with?—A. Well I know—I am under the impression that Mr. Harvey was on the work before Mr. Huestis was but I cannot tell you exactly whether Mr. Hervey——oh Mr. Hervey was a division engineer I think.

Q. A division engineer, you would not call him one of the subordinates exactly?—A. No.

Q. He held a very important office?—A. Yes.

Q. He had under him—I mean the assistant district engineer—the division engineer and again in the resident engineer?—A. Yes.

Q. And if so he was a very important factor in the whole thing, was he not?—A. Yes.

Q. If you will forgive me for saying so it seems to me a little strange you cannot tell us anything more definite about it?—A. I cannot tell the date Mr. Huestis was appointed district engineer.

By Mr. Macdonald:

Q. You could have found out by looking the matter up before you wrote your letter, could you not?—A. Well I did not think of all the names at the time.

Q. Well did it not occur to you that when you were making an unfortunate reflection upon the engineers that you ought to have been careful about it? No answer.

By Mr. Smith:

Q. What surprises me, Mr. Lumsden, is that you cannot tell us what portion of the work Mr. Huestis was performing these very important duties for?—A. I know

Mr. Huestis was performing that of assistant engineer on the work that I went over on that arbitration, at the time that I went over it, but I don't think he was there all the time. I am under the impression somebody else was there before him.

Q. You see my difficulty, Mr. Lumsden, when you say 'I am under the impression.' I want to get at this, I want to get at the bottom of it and fix the responsibility for any wrong-doing that is shown?—A. Yes.

Q. I want to fix the responsibility somewhere?—A. Yes.

Q. And I want you to help us as far as you can. You told us you cannot say when Mr. Huestis came there nor can you say the portion of the work that he had charge of?—A. No. I must say I am mixed up in how the division was made. I know my recollection is that Mr. Hervey was on that work first.

Q. I am not appearing in any way for the engineers, Mr. Lumsden?—A. No.

Q. They are represented by other counsel, but I suggest to you whether that will leave Mr. Huestis in a fair position; he is an engineer of standing. Now can we not clear the thing up more definitely than that?—A. Mr. Huestis at the time that I was on was certainly responsible to a certain extent.

Q. To what extent?—A. To the extent of the supervision of the others.

Q. For what portion?—A. Well I think for all the portion that I was over in 'B.'

Q. Now that being the case, Mr. Lumsden, why did you not mention Mr. Huestis when the committee pressed you for the names of those you had lost confidence in?—A. For the reason I am not sure now as to whether Mr. Huestis went over all that work in 'B' that extends from the river to Weymontachene, but I am under the impression that he does.

Q. Well, then, you did not mention his name because you did not know whether he was responsible?—A. I thought as he was assistant district engineer he was responsible to a certain extent for those under him.

Q. For those under him?—A. Yes.

Q. He is next in rank to Mr. Doucet?—A. Yes.

Q. I will repeat the question: Have you lost confidence in Mr. Huestis' character as an engineer?—A. No.

Q. In his integrity as an engineer?—A. No.

Q. Nor in his conscientiousness?—A. No.

Q. I will add a question suggested by Mr. Moss: Had you lost confidence in his ability as an engineer?—A. Well, I lost confidence—what I lost confidence in was his not carrying out the specification and my interpretation of that specification in accordance with my views of it.

Q. I am going to lead up to that in a little while, Mr. Lumsden. At all events, as far as these two chief executive officers in section 'B' are concerned, their professional character and standing remains unchallenged by you except that you say——A. That I did not agree with them.

Q. Except in so far as they have any responsibility for anything different from your own ideas?—A. Yes.

Q. That you attach that responsibility to them and that they forfeit your confidence by so much. Is that the idea?—A. Yes.

Q. Then we come down to the engineers below them, the division engineers and the resident engineers?—A. Yes.

Q. Is what you have said now concerning those chief officers applicable to them also?—A. Yes.

Q. You have no fault to find with them further than that they differed from your ideas?—A. That their classification did not agree with what I believed it should.

By the Chairman:

It resolves itself, I suppose, a great deal into a difference of opinion?—A. A difference of opinion as to the interpretation of the specification.

By Mr. Smith:

Q. As to the control over the engineers after appointment, were there any engineers dismissed while you were there, Mr. Lumsden?—A. I believe so. Yes, there were.

Q. On whose recommendation were they dismissed?—A. I got—I remember one man was a Mr. Miles. He was dismissed on complaint made by the assistant engineer to me and I repeated it to the Commissioners and he was let go.

Q. You recommended his dismissal?—A. Yes.

Q. I think there was another man dismissed also?—A. There were, I think, one or two resident engineers in district 'B' that were dismissed, but I don't recollect my having made any recommendation regarding them. I don't remember the names either.

Q. Mr. Lumsden, my information is that there has never been an engineer dismissed except upon your recommendation that he should be dismissed. Those are my instructions?—A. I have no recollection of having made a recommendation that these men should be dismissed; in fact, I think one of them was dismissed before I knew it.

Q. When Major Hodgins was dismissed was it on your recommendation?—A Yes.

By the Chairman:

Q. Did you, Mr. Lumsden, recommend the dismissal of any engineer that was refused by the Commission?—A. No.

By Mr. Smith:

Q. That is the very question I was going to ask. During the whole of your connection with this work did the Commissioners ever refuse to give effect to a recommendation made by you for the dismissal of an engineer?—A. No, I think not.

Q. So then we have the Commission appointing the engineers upon your recommendation, dismissing the engineers upon your recommendation and never continuing in office any one that you had recommended for dismissal; that is the position is it not really?—A. I don't think they ever objected; in fact, I don't think I ever made any complaints.

Q. If you had been the engineer, the chief engineer, for the Canadian Pacific Railway Company or the Grand Trunk Railway Company, would you have had any more control over your engineers than you had in your position here as chief engineer?—A. Well, I think I would.

Q. Why?—A. Because that—take the very fact of the meeting that took place at La Tuque, where the Commissioners and a portion of my staff and the contractors were all together, and that is where the question of classification came up. The Commissioners agreed with a portion of my staff against me before the contractors.

Q. Well, you are anticipating what I shall have to go into pretty fully?—A. Yes.

Q. But inasmuch as you have done so, I may as well put the question to you: that was wholly with regard to the classification of assembled rock, was it not?—A. It was with regard to the interpretation of the specification regarding rock, loose rock and cemented materials.

Q. You are quite right in saying so, but where the difference of opinion existed was as to the matter of assembled rock, was it not?—A. Assembled rock at that time had not been mentioned.

Q. Well, then, we will not call it assembled rock. What was absolutely solid rock—absolutely, literally, physically, geologically and every other way, solid rock—there could not be any possible difference of opinion on that, could there?—A. No.

Q. Then the difference of opinion was upon something that was not absolutely and essentially solid rock?—A. Yes.

Q. Well, was it not—do not let us play on words—was not the difference as to the interpretation of the specification with respect to masses of rock?—A. To masses of rock and to cemented material.

APPENDIX No. 3

Q. Well, that is exactly what I am coming to. When we are talking of assembled rock, do you not mean masses of rock?—A. No, I do not mean masses of rock, because the masses of rock—my intention in connection with that was that the masses referred to, masses of rock, as opposed to ordinary boulders, were masses of rock which very frequently are found at the bases of cliffs, in enormous size, or varying from a yard or two up to hundreds of yards sometimes, which were detached from ledge. That was my view.

Q. May I ask you now, Mr. Lumsden, whether this view which you have now expressed is not the determining opinion with respect to your classification of solid rock? Has not that governed and dominated your interpretation all through, the very view that you have now expressed?—A. Well, it is—I don't quite understand what you mean by dominating my view all the way through.

Q. That is the cardinal principle of your opinion as against the opinion of other engineers?—A. My own opinion was it must be rock, first of all, or stone, as I have always understood rock. I never heard of anything else but stone of some description being called rock in any previous contract.

Q. You say that at that meeting the Commissioners sided with your assistant officials as against you?—A. Yes.

The CHAIRMAN.—He did not say that exactly; he said some portion of his staff, but not the whole of it.

The WITNESS.—Not the whole of it.

By Mr. Clarke:

Q. When was that meeting held?—A. 25th of October, 1907.

By Mr. Smith:

Q. Am I right in understanding that the difference related to that especial specification and to that opinion held by you, that it meant absolutely rock?—A. Rock.

Q. When it said 'masses of rock' it meant that it was all rock?—A. It meant that it was all rock.

Q. And you still adhere to that opinion?—A. Except in so far as in consultation with Mr. Schreiber in regard to that portion which is now called assembled rock, which was as if a number of pieces of rock had been all thrown in and cemented together by other material.

Q. You modified your opinion several times as to that clause in the specifications?—A. I modified that clause regarding assembled rock.

Q. Regarding the meaning of solid rock?—A. Yes, I modified it in the way I have stated.

Q. You modified it more than once, as a matter of fact?—A. Only in writing once, I think; the explanation at La Tuque was verbal if I remember rightly.

Q. At all events at La Tuque you did modify it, didn't you?—A. I do not think I did at La Tuque modify it; the modification was after I came back from La Tuque.

Q. Perhaps I will be able to assist your memory; I do not want to overtax it now, but I want to test your memory as to your views, because this question of rock, as far as I am able to determine, is the rock you have split on all through, that is the real question of difference between you?—A. Yes, it is the great question.

Q. And when you wrote to the Commission that you had lost confidence in your engineering staff——A. Yes.

Q. To put the matter plainly, and in a very few words, it was with respect to the interpretation of the specifications regarding solid rock, wasn't it?—A. Well, it also included loose rock as far as it referred to cemented material.

Q. Well, whether we call it solid rock, assembled rock or cemented rock, the difference——A. There is loose rock as well as solid rock in dispute.

Q. Loose rock is differently specified altogether, and there never was much difference between you and your engineers as to the meaning of loose rock, was there?

—A. Yes, there is; under the heading of loose rock is included indurated clay and cemented gravel which could be ploughed with six horses, that is included under the heading of loose rock.

Q. The engineers, at least I am so instructed, never differed with you as to the interpretation of loose rock; nobody ever pretended that anything that could be ploughed should be classified as rock; did any of your engineers ever contend that or pretend it?—A. I do not know that they did, but I am satisfied there is a lot of material that might have been ploughed that was classified as loose rock.

Q. That is an *ex post facto* opinion of yours, isn't it?—A. Not entirely. I saw a portion of it ploughed and also understand, I am pretty well satisfied, there was a certain percentage of loose rock returned for it.

By Mr. Macdonald:

Q. Returned after you saw it ploughed?—A. After I saw it ploughed, yes.

Q. Where was that?—A. Near Wabigoon river.

Q. Who was the engineer in charge?—A. I think it was Mr. Millar, but I am not positive whether it was Mr. Millar or Mr. Bell—Mr. Millar, I think.

By Mr. Moss:

Q. You say that you saw it ploughed and then it was subsequently returned as loose rock?—A. I do not know; I cannot say. I know a portion of that cutting was loose rock, subsequently returned.

Q. It seems to me that statement is rather in keeping with the statement in your resignation; you say you saw it done and that it was returned, and now you say you cannot tell whether it was returned or not.—A. I know that in the cutting I am referring to I have seen it ploughed by four horses and a 12 team scraper, and in that cutting a large amount of loose rock was returned.

Q. I am not here concerned with the interpretation of the classification directly, but I am here representing a number of professional gentlemen against whom you have undertaken to cast a very serious aspersion, one which might affect their whole prospects in future life. Now, I urge on you that it is only fair in common honesty and decency that you should either make specific charges against these gentlemen or stop making insinuations against them. It does not seem to me just or right that you should tackle Mr. Millar in the way in which you have done, or to suggest that he has returned as loose rock material which you had yourself seen ploughed, and then say afterwards that you do not know whether it was or not.

Mr. SMITH.—Mr. Chairman, I have no objection whatever to my learned friend, Mr. Moss, interrupting with any question he sees fit to put to the witness under examination, but I want to follow a system with Mr. Lumsden, I want to lead up to correspondence which shows what were the real differences between Mr. Lumsden and his engineers, because it is in writing, and in the careful reading of those letters the impression has been made upon my mind, Mr. Lumsden, that the whole question between you and your engineers was this question as to how high a classification should be given to material which is cemented together, indurated hard material cemented together that had to be removed by blasting; and that that is really the difference of opinion that has existed between you and your engineers, as appears by the letters in which you challenge their interpretations of the specification. If I am not right in that, of course, I want to be put right at once.—A. There was a great deal in that.

By Mr. Smith:

Q. Put it more frankly, Mr. Lumsden, was not that really the whole thing, practically?—A. It was not just as much under rock as it was under loose rock, what was referred to, as I understand it, is the interpretation of loose rock.

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Q. We are working at cross purposes, I think. You thought some of it ought to have been classified as loose rock which they classified as solid rock, that is it?—A. Yes.

Q. And you thought some of this material, even when cemented together, might have been removed or loosened with picks, &c., and did not require blasting?—A. Even if it did require some blasting, I do not see that it made it rock.

Q. Quite so, that is your contention?—A. Yes.

Q. So that really the question between you then was confined almost entirely to that, that you entertained one view as to the meaning of the specification and Mr. Doucet and Mr. Huestis and a great many other engineers—and Mr. Poulin—entertained another view?—A. Yes.

Q. And in so far as their views prevailed in the classification you disagreed with them entirely?—A. I disagreed with their classification.

Q. Coming again to the commissioners, when you say that the commissioners sided with respect to this particular thing with the direct and subordinate engineers as a matter of fact, Mr. Lumsden, you know the commissioners took no action whatever when they were at La Tuque?—A. Except their statements.

Q. They listened to the statements?—A. And they stated at that time that they sided with them.

Q. No matter what they stated, didn't they afterwards refer it to the Department of Justice?—A. Oh, after I asked them to.

Q. At all events, they gave the engineers no instructions?—A. I cannot say that they did.

Q. You see where we are coming to; you created the impression that the Commissioners interfered and gave instruction?—A. No, I never said anything about the Commissioners giving instructions.

Q. Which, as a matter of fact, they did not. I will appeal to you now to be as careful as you can, Mr. Lumsden; I want you to have every latitude, and I will assist you in every way I can, but do not make a statement that is liable to be misunderstood?—A. I will try not to.

Q. If these hon. gentlemen of the committee should get the idea that the Commissioners were interfering it would create an entirely false impression. This whole matter, as you know, afterwards was the subject of a very long discussion and legal opinions from eminent counsel all over the country?—A. Yes.

Q. And the opinion of the Department of Justice was obtained, you are aware of that?—A. Yes.

Q. So that the Commissioners took no action at all at that time, but you tell us now that you think that the Commissioners ought practically to have suppressed the thing and to have said that what Mr. Lumsden says must go?—A. I do not say that.

Q. You do not say that, but that is the idea you had?—A. What I think is that with a person in a similar position to me, if the Commissioners did not agree with me in a matter of that kind when it was so important, in the presence of the contractors and my subordinates, they should have said nothing until they had a chance of talking the matter over with me individually.

Q. Is it not a fact that the Commissioners all through left the question of classification to you?—A. Well, on that occasion they sided with the contractors and with my subordinates.

Q. When you say they sided with them, they took no action whatever?—A. They took no action, but they spoke that way.

By the Chairman:

Q. They discussed the matter?—A. They discussed the matter, and they agreed—

By Mr. Smith:

Q. They discussed the question of what ought to be solid rock; naturally, everybody there was discussing it?—A. Of course.

Mr. CLARKE.—Was this before the interpretation of the specification was sent out?

By Mr. Smith:

Q. This was all before that, Mr. Clarke. I intend to show that the interpretation made by Mr. Lumsden in June, 1908, is at variance with the opinion he expressed here to-day, and that is really the crux of the whole case. At that time, at La Tuque, the engineer of the Grand Trunk Pacific was there, Mr. Woods?—A. Yes.

Q. And others were there?—A. Mr. Woods was there.

Q. And Mr. Armstrong was there, another Grand Trunk Pacific engineer?—A. Mr. Armstrong was there.

Q. And there was a general and free talk over the thing?—A. Yes.

Q. I might just ask you the question now, that the same difference of opinion exists on District 'F' between you and the district and subordinate engineers as on District 'B' with regard to this cemented material or assembled rock?—A. I think so.

Q. And the question on that district is, to all intents and purposes, in identically the same position as on section 'B,' isn't it?—A. I think so, practically the same.

Q. Practically the same. It is a difference between you and the district and subordinate engineers as to the interpretation of that clause of the specification?—A. Yes, and of my interpretation of it.

Q. And of your interpretation of it—quite so.

By Mr. Moss:

Q. I would like to ask Mr. Lumsden if he makes any suggestion or any complaint regarding the professional capacity, integrity or ability of these engineers?—A. The professional capacity of some of the resident engineers I know nothing about.

Q. You make no charge——?—A. I make no personal charge against any one of intentional wrong-doing.

Q. And you do not as far as Mr. Poulin is concerned?—A. No, I do not as far as Mr. Poulin is concerned.

Q. You make no charge as to his capacity or integrity or his attention to the work?—A. No; I make no charge of that kind.

The CHAIRMAN.—The committee stands adjourned until Tuesday morning at 11 o'clock.

TUESDAY, March 15, 1910.

The Committee met at 11 o'clock a.m., Mr. Geoffrion in the chair.

The examination of HUGH D. LUMSDEN resumed.

By Mr. Smith, K.C.:

Q. Mr. Lumsden, at the last meeting some of your answers had led me on to the question of classification before I was quite ready to come to it. I want to ask you a few preliminary questions before coming to the question of classification. In chronological order what was the first statement or estimate of the cost of this work?—A. I cannot say what the first estimate was.

Q. That will carry us back to about 1903?—A. As far as I know I made no estimate at that time.

Q. Do you know whether Mr. Schreiber made—?—A. I have seen it reported that he did.

Q. You have not personal knowledge of it?—A. No, I have not personal knowledge.

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Q. In 1903 I am instructed that Mr. Schreiber gave some general estimate of the cost, either the general cost or the cost per mile, which was the first estimate that had been made at all of the work. Dou you remember that?—A. I remember seeing some statement of the kind in the papers.

Q. At that time there had been no survey of any kind whatever made?—A. I don't fancy so.

Q. Well then, the first work that was done, is that what is called the taking of the preliminary lines?—A. Yes.

Q. Now, would you explain to the Committee in a few words what that means?—A. Yes. The preliminary line was the first line that was run through the country. Very often there were several of them run approximately parallel to each other, covering a distance of probably eight or ten or fifteen miles apart sometimes.

Q. When you say several of them that would mean that those were tentative, that nothing had been done?—A. No, they had not been decided upon; they were simply preliminary.

Q. And they might vary anywhere from eight to ten or fifteen miles?—A. Sometimes possibly they may have been even a greater distance than that.

Q. So the preliminary lines would not be of very great importance, except in so far as the final locations should agree with them?—A. Yes, except that they were giving us a knowledge of the country.

Q. Well then after the preliminary lines, what would be the next step that you would mention as to fixing a road?—A. We picked out what we believed to be the best line, and then a trial location.

Q. That is what you would call the trial or first location?—A. Yes.

Q. There was nothing final about that either?—A. No.

Q. Oh, you might tell us if you will what was this preliminary location founded upon. Was it the result of any survey or taking of levels or what?—A. No, very often not. We knew the country in many instances.

Q. So the preliminary lines were also, I suppose, without any surveys at all?—A. In very many cases.

By Mr. Macdonald:

Q. I suppose they make notes of these trips and report the conditions they see, would not they?

By Mr. Smith, K.C.:

Q. Tell us what would these preliminary lines mean as far as engineering work is concerned. How much work would it represent?—A. That meant that the lines were generally run instrumentally with an instrument of some kind, either a transit, and in some instances measured and elevations taken.

Q. So that you would get something of a profile?—A. Get some idea of the distance and the various elevations.

Q. Well then, after the first location you had what is called a revised location, had you not?—A. Yes, generally.

Q. What would it be the result of?—A. It would be the result of picking out the best trial lines we had, preliminary lines.

Q. Then after the revised location, you had then still to fix the final location?—A. Yes.

Q. Now you had nothing, of course, to do with Mr. Schreiber's first estimate at all, had you?—A. No.

Q. Well, what was the next estimate that was given to the Government, to Parliament, of the cost of the work after Mr. Schreiber's first estimate? I suppose Mr. Schreiber's first work was really just an estimate from his knowledge of the country, of what such a road would probably cost?—A. Yes, I know nothing about that transaction.

Q. Well then, can you tell us what was the next estimate that was made?—A. The first estimate I remember making was—I cannot remember the date of it, but it amounted to something like, I think, about $114,000,000.

Q. For what portion of the road?—A. Governing the whole of it. I cannot be positive about the figures or the date.

Q. You mean between Moncton and Winnipeg?—A. Between Moncton and Winnipeg.

Mr. CLARKE.—That is the first estimate that was made?

By Mr. Smith:

Q. That is the first you know anything about?—A. The first I recollect.

Q. You don't remember what Mr. Schreiber had estimated in a general way for that, do you?—A. No, I don't know; I don't recollect what it was.

Q. Now, was it in 1904, the end of 1904 that you made the estimate?—A. Oh, no, a much later date.

Q. Can you fix the date when you made the first estimate?—A. Not the first estimate for the government. The first estimate sent in to the government I am referring to. I think that is what you asked me.

Q. Yes, that is what I asked you. Before you made an estimate at all, previous to the estimate sent in to the government?—A. I had estimates from different district engineers of their different districts before that date, I believe.

Q. Could you say in what year?—A. I cannot say positively, but I think it must have been in the early part of 1906.

Q. When did the surveys actually begin, the work of survey?—A. 1904, the fall of 1904.

Q. And your estimates, I suppose, were based, to some extent, on those surveys, were they not?—A. My estimates were made up, compiled from the estimates of the different districts.

Q. Would that be in 1906?—A. I think it was in the spring—I am not positive—I think it was in——. My estimate was later on than that, but I think I had estimates in from the district engineers, probably in 1906, which were not sent in to the government.

Q. Have you any record of these estimates now?—A. I personally have not. I have no doubt they must be in the office.

Q. Do you remember how they accorded with the estimates which you subsequently sent into the government?—A. Most of the estimates, they were largely increased in subsequent estimates.

Q. Do you remember the reason for the increase?—A. Well, I cannot remember more than I presume the country was found to be rougher than it was anticipated.

Q. Can you give us any idea of how much the estimate was increased in the second——.—A. I cannot say that now.

Q. Did you make a report to the Commissioners at that time?—A. I don't recollect it. Some districts—there was a very much greater difference in some districts than in others.

Q. You state it would be found in the office of the Commissioners?—A. I am not sure. If there was one, it would be found.

Q. There will not be one there unless you made a report to them will there?—A. I don't suppose so.

By Mr. Macdonald:

Q. You would make a report every year, would you not to the Commissioners?—A. Yes, I made a report every year to the Commission.

Q. Perhaps for convenience you might give us that report, each report for each year. You can fix the dates in regard to Mr. Lumsden's estimates. We would get

something a little more definite than what Mr. Lumsden is giving us, as to when he made these estimates.

By Mr. Smith, K.C.:

Q. Could you remember, Mr. Lumsden, whether you ever reported to the Commissioners the quantities or estimates given you by the different engineers?—A. I cannot be positive, but I think I did. I think that would probably be in the annual reports.

Q. Well, we had better look at some of the reports?—A. I cannot say positively.

Q. (To Mr. Parent). Have you got any of the reports previous to 1909?

Mr. PARENT.—No.

By Mr. Smith:

Q. I may have to come back on that again, Mr. Lumsden. Well, at all events you made finally an estimate which was delivered to the government?—A. I believe so.

Q. As a result of information given to you by your district engineers?—A. Yes.

Q. Will you tell the committee how that was made up by your district engineers?—A. It was made up from their estimates, from measurements and calculations.

Q. How was it made from measurements?—A. It was made, I presume, from central line measurements, not from cross section measurements.

Q. I suppose it would not have been made from cross-section measurements because there would be very few cross-sections they could take?—A. A great deal of it unquestionably would not be made from cross-sections.

Q. Is it not a fact that a great deal of it was made as estimates from the preliminary lines?—A. Some of it may have been.

Q. It is in my mind that I read in one of your letters instructions to prepare the estimates of quantities at preliminary lines if necessary?—A. There may have been portions in which at that time there was nothing but the preliminary lines.

Q. Can you recall writing instructions to your district engineers to take their quantities from preliminary lines?—A. I don't recollect it.

Q. I have in my hand a copy of a letter dated November 23, 1905, addressed by yourself to A. E. Doucet, Esq., district engineer, Quebec, filed as:

EXHIBIT No. 36.

OTTAWA, November 23, 1905.

A. E. DOUCET, Esq.,
District Engineer, Quebec.

'Dear Sir,—I am anxious to get as soon as possible plans and profiles and quantities to cover about 100 miles westerly from the Quebec bridge, or at any rate quantities over that distance, even provided some of them had to be taken out from preliminary lines, so as to enable us to be in a position to let contracts after the 15th January.

Yours truly,

HUGH D. LUMSDEN.

Q. Well, Mr. Lumsden, what value would quantities taken out from preliminary lines have?—A. That would depend upon the nature of the country they were taken in.

Q. If your preliminary lines, as you told us a moment ago, might be, if I remember correctly, I think you said 8 or 10 or 15 or possibly in some cases 20 miles away from the location finally adopted, quantities taken out upon preliminary lines would naturally not be a very reliable guide?—A. Not unless they were in the immediate vicinity of a location.

Q. Of course you know there was very considerable variation. When I speak of considerable variation, I mean of miles?—A. In some cases.

Q. In a great many cases of one mile or more miles?—A. Yes.

Q. So that the final location of the road might reveal quantities entirely different from the preliminary lines?—A. They might.

Q. And probably would?—A. Yes, probably they would. It depended on the nature of the country, if it was a very steep rough side hill country or anything of that kind the preliminary line might be very deceptive in the quantities.

Q. And those quantities given in to the government, in so far then, as they were based upon preliminary lines would amount simply to this, that they were the best information that you had at the time, but that they were utterly unreliable as indicating the true quantities —A. They were the best information we had at the time.

Q. Excepting so far as the character of the country was the same, they would be no guide at all, would they?—A. Well, they would be some guide, but that might lead you into errors.

Q. Would you be surprised, as an engineer, to find that the quantities estimated upon any preliminary line, even though you had a profile, were not even approximately like the quantities in the line as finally determined?—A. I would not be surprised. There might be something turn up on the preliminary line that might be impracticable to carry out.

Q. I am not criticising that, but what I want to get at is this; in the quantities which you estimated, which you obtained from your district engineers, there is considerable difference between these quantities and the actual quantities as they turned out?—A. Yes.

Q. I want to see if there is any reasonable way of accounting for it, and that strikes me as one way, in so far as they are based on preliminary lines, those quantities would not be the quantities of the line of the final location at all, would they?—A. Oh, they might not be at all.

Q. Now, even after these quantities had been sent in, and even after the final location, are you aware that there were some changes in the line?—A. Yes.

Q. That removed its final situs quite a long distance even from what we would call the final revised location?—A. Yes, in some instances.

Q. I suppose that fact would simply add further to the uncertainty, the unreliability of the quantities originally sent in?—A. Yes.

Q. That might account for very great discrepancies?—A. It might make a good deal of difference.

Q. Can you tell us just where those changes in location, that is, changes from the final location, were made?—A. I could not tell you them all, but I remember one place in particular was at La Tuque.

Q. That was a place where there was a great deal of criticism about the great excess in the classification, was it not?—A. Yes.

Q. So that place was not on the final location at all?—A. It arose over changing the grade.

Q. And the quantities actually found there may have been entirely different from the quantities that were estimated, when that line was in a totally different location?—A. Oh, certainly.

Q. In so far as those estimates were made, Mr. Lumsden, were they made in accordance with the usual engineering practice?—A. In what way?

Q. Well, acting upon such information as appeared from time to time?—A. Oh, I think so.

Q. Would it have been any different if you had been building the road for the Canadian Pacific or the Grand Trunk or the Great Northern or any other road?—A. I don't think so.

Q. You simply followed what is usually done among railway engineers, acting upon such information as you get, and correct it from time to time?—A. Yes.

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Q. Now, in those estimates that were made up by you, do you remember if there were certain things that were omitted which had to be inserted later?—A. When you say 'made up by you' you refer to the estimate that I say I prepared?

Q. Yes.—A. There may have been. I don't recollect that.

Q. Take on section B, for instance, that we are now dealing with?—A. Yes.

Q. Was there any allowance made for train haul in these first estimates?—A. I cannot say; I am not positive that there was.

Q. But trying to recall it now, can you recall the fact that it was discovered later, and that you had to remedy it later?—A. That is possible. I don't recollect it though.

Q. What?—A. I don't recollect it.

Q. Do you remember Mr. Doucet drawing your attention to the fact and telling you that unless they were arranged that you would be at the mercy of the contractors in their charges for train haul?—A. I recollect the deal for train haul and I fancy that was before the estimate was made, but I am not positive of the dates.

Q. My instructions are it was subsequent to the estimate, and that nothing was provided in the estimates for the train haul?—A. That I cannot be positive of, I don't recollect.

Q. This perhaps will refresh your memory, Mr. Lumsden; You say that you remember the train haul deal?—A. Yes.

Q. That was of course after the contracts were made?—A. Yes.

Q. Well, then, of course, if it were after the contracts, it must have been a long time after the estimates?—A. Not necessarily.

Q. But you did not make your contracts, Mr. Lumsden, before you put in your estimates at all?—A. I know what you are referring to now. If you are referring to the estimates which were put in when the contracts were let—

Q. Long previous to the contracts.—A. They were the estimates put in at the time the contracts were let, covering those contracts.

Q. In the estimates you sent in to the Government, they were sent in long before the contracts were they not?—A. No, I do not think so. No, the estimate I am referring to, I don't think it was. I think it was after the contract had been let. I am referring to the estimates somewhere about $114,000,000. I don't remember the exact figure.

By Mr. Macdonald:

Q. Did you make an estimate of the quantities and all that before the contract was called for, and tenders were called for each contract?—A. Yes, I did. I thought you were referring all the time to the estimate I sent in to the Government.

By Mr. Smith:

Q. Then you made an estimate of the quantities before any contracts were let?—A. Yes.

By Mr. Clarke:

Q. Were those prior to general estimate of $114,000,000?—A. Yes, all prior.

By Mr. Smith:

Q. You made a train haul deal, you say, which I think you had confirmed by Order in Council?—A. Yes.

Q. That was rendered necessary because it had been left out of the estimates before?—A. Yes, we had a special price made for train haul.

Mr. MACDONALD.—You had better use the word 'arrangement.' 'Deal' has no significance. 'Contract' or 'arrangement' is the business word to use.

By Mr. Smith:

Q. Yes, I am told that that one item of train haul would amount on 150 miles to upwards of a million dollars?—A. That I cannot say; I do not remember the amount.

Q. Train haul, I suppose, is where instead of having a cut, that you have a great depression and everything to fill it up. A piece of a lake or a depression you must fill up and bring the line up to level, that is where you would have your train haul?—A. Yes, or sometimes there was no material but rock to be got and you would haul sand or gravel or the best material you could get to make up the fills in place of borrowing rock.

Q. For some distance?—A. Yes, miles.

Q. That item alone would be a very large item?—A. Yes, considerable.

Q. From your knowledge of that section, 150 miles on B, would you be able to say whether my instructions are reasonably near the mark when I say it is over a million dollars on that 150 miles?—A. A million dollars of a difference you mean?

Q. Yes.—A. I could not say; it might be.

Q. There was the same on District 'F' with regard to the train haul, a large amount?—A. Yes.

Q. My instructions are it amounted to over a million and a half in Section 'F'?—A. I cannot say.

Q. You cannot give us those facts?—A. No.

Q. Now on Section 'F' do you remember whether in the estimates overbreak was provided for?—A. I think not.

Q. That turned out to be a very, very large item on 'F' did it not?—A. It did.

Q. On 'B' I understand there was not very much overbreak.—A. No.

Q. But on 'F' the overbreak, I am instructed, ran to 30 to 40 per cent.—A. That is what I objected to?

Q. You objected, you thought it was too high?—A. A great deal too high.

Q. That had not been provided for in these estimates?—A. What overbreak there was I do not think was provided for in the first estimates to let the contract.

Q. And of course there would be a very large amount for overbreak?—A. There would be some, I don't think any such amount as 30 or 40 per cent.

Q. What do you think it would be?—A. I could not say because I had never been in the habit of allowing overbreak before, except for actual slides that took place and it would be approximately measured.

Q. At all events, whatever it was approximately it would account for that much of a discrepancy?—A. It would account for so much.

Q. For so much of the discrepancy between the estimates and the actual cost?—A. Yes.

Q. So all these considerations show that actual reasons existed accounting for a very large difference between the estimates and the actual cost quite irrespective of questions of classification, or of interpretation of specifications, or anything of that kind?—A. Oh there would be some unquestionably.

Q. You say there would be some. There would be a very large amount, Mr. Lumsden?—A. Well I cannot say with regard to overhaul. There would be a considerable amount, but rather think it would not be so very much in connection with overbreak except for another item, which I think, might not have been taken into consideration in district 'F,' and that was rock borrow.

Q. That is a further item which was not provided for possibly in the estimates?—A. I think not.

Q. That would run to a considerable amount would it not?—A. Yes, rock borrow would run up.

Q. That would be one more element that would account for the discrepancy between the estimates and the cost irrespective of any difference you had between you and the engineers.—A. It would unquestionably account for some of it.

Q. Are you able to tell us, Mr. Lumsden, whether on district 'F' the estimate had been made nearly to the grade or to one foot below the grade by Major Hodgins on the rock cuts?—A. I cannot tell you positively but I should rather think that they

were only made down to grade. I cannot say positively though. I am not sure whether that foot was taken in or not, I cannot say.

Q. If that were necessary it ought to be taken down one foot below, should it not?—A. Yes.

Q. For ballasting purposes?—A. Yes.

Q. Supposing, as my instructions are, that that was only estimated down to grade by Major Hodgins, that would account then in the cost for a very large addition would it not, that extra foot?—A. It would count for considerable.

Q. And that is one more element that accounts for discrepancies, before we come to the differences between you and your engineers?—A. Yes.

Q. And Mr. Lumsden, I am told that on 'F' there was no estimate made for the extra width where sidings were necessary; can you recall that?—A. I cannot say whether it was or not from memory in the original estimates.

Q. I suppose that would be quite an important item also, if that were the case?—A. Yes in some cases it would be quite an item.

Q. And that would account for a still further difference?—A. Yes.

Q. Major Hodgins, I understand, made the estimate for district 'F'?—A. Yes, before the contract was let, that is the McArthur contract.

Q. And so far as you knew then, you simply took the figures and sent them into the government as he gave them?—A. That is my recollection of it.

Q. Now we will return to the question of classification.

By Mr. Macdonald:

Q. May I ask a question there? I see the other night, Mr. Lumsden, that the Minister of Railways laid before the House a statement which according to 'Hansard' he calls here: 'The engineers' estimated quantity of solid rock, loose rock and common excavation in each one of the contracts.' I merely wanted to know generally for information the way in which that estimate was arrived at. I suppose you finally made up an estimate and reported to the Commission in each case, did you?—A. Yes from the information received from the districts.

Q. Not from any personal knowledge of the conditions yourself?—A. I had very little personal knowledge.

Q. Very litle personal knowledge. You exercised your judgment in making up those estimates practically wholly from the preliminary surveys or location surveys of the engineers?—A. Yes, whatever was the most reliable survey we had at the time. In some cases we may not have had location surveys for the entire portion at the time the contract was let.

Q. Could you tell us when those estimates were made, Mr. Lumsden? Just look at them (handing over copy of 'Hansard,' March 11, 1910, page 5388.) I mean when you made that estimate had you reported to the Commission?—A. I could not tell the date of this.

Q. Well, approximately? I suppose it would be made before tenders would be called for, would it not?—A. Yes, I think so.

Mr. Macdonald.—That date could be verified easily, I suppose. Anyway it was made out before the tenders were called for.

Mr. Moss.—I would suggest, Mr. Chairman, that Mr. Smith should have details prepared as to this and put them in at a later stage.

Mr. Macdonald.—Perhaps the Commission, Mr. Smith, in view of the fact that the statement is in 'Hansard' and should be incorporated in the record here will through you obtain all the information as to dates and all surrounding facts which would make this intelligible to the committee.

Mr. Smith.—I will have the Commission go over this statement just as it is found in 'Hansard' at page 5388 and compare it with the annual reports sent them by the chief engineer, and then we will be able to give these reports to Mr. Lumsden to

refresh his memory. I do not think that it would be advisable to do so at the present stage.

Mr. MACDONALD.—Not at this stage. The best way would be to have all the information in regard to the matter put into an exact and clear shape and not be merely dependent upon memory, because it is impossible to make up a record or to have any judgment about it at all unless it is put in in such a way.

By Mr. Smith:

Q. Now before the committee adjourned on Friday, Mr. Lumsden, you were telling us you had some little difficulty with the members of the Commission when at La Tuque?—A. Yes.

Q. Upon a question of classification?—A. Yes.

Q. I think you told us that they took no action whatever, that they simply expressed an opinion in general conversation with others present?—A. Yes, they expressed their opinion in presence of the contractors and my subordinates.

Q. Upon the construction of the specifications?—A. Yes.

Q. Mr. Woods was there and he expressed his opinion?—A. Mr. Woods I think and Mr. Armstrong. Well, I am not sure whether Mr. Armstrong, his assistant, was there or not, I think he was.

Q. They were both there, I understand?—A. I think so.

Q. Did the commissioners ever interfere with you at all in the matter of classification?—A. I cannot say that they interfered with me.

Q. Do you remember writing the letter of September 24, 1907, which has been marked as Exhibit 8 and is to be found at page 145 of the printed proceedings of this inquiry?—A. Yes.

Q. In that letter you discussed the question of classification (reads):

> 'As to classification, this, in my opinion, should be the same whatever the prices in the contract may be, the material moved not being thereby changed.
>
> In regard to rock there should be no difficulty in arriving at its quantity, except as to the amount outside the regular slopes, which owing to slips or slides is unavoidable.
>
> Mixed cuttings, consisting of common excavation, loose rock or cemented material, are much harder to classify, and the resident engineer, who sees the work from day to day and makes the measurements, is in the best position to make a fair classification of same, but there is often a wide difference of opinion between experienced engineers as to such classification, but no rock should be allowed except such as is actually in the cuttings.'

Now there is a further suggestion that was made owing to the fact that the contractors seemed to be losing money there?—A. That is in the next clause, do you mean?

Q. The next clause?—A. Yes.

Q. There is often a wide difference of opinion between experienced engineers as to such classification?—A. Yes.

Q. You say that there. You also say that no rock should be allowed except such as is actually in the cuttings?—A. Yes.

Q. (Reads):

> 'Engineers in charge of work where contractors are losing money are in anything but a pleasant situation, but they should not be expected to make their classification different from what it would be were the contractors making money. They are, however, very liable to do so when they know that the estimate does not cover the cost of the work.'

Then there is a suggestion made in the next paragraph and in another clause of the letter you say (reads):

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'or, failing your being in a position to do so, by instructing me in writing to classify all material other than solid rock, loose or easily worked sand, gravel or muskeg, under the heading of item 5, loose rock, and use rock borrow in place of trestle wherever common excavation for the purpose of making up embankments is not obtainable within a reasonable distance, or to pay for standard trestle at cost plus 10 per cent."

Those were suggestions made for the purpose of coming to the relief of the con-contractors, who seemed to be losing money?—A. Yes, at that time.

Q. At that time. Wages were high?—A. Yes.

Q. And you say that in your view of the specifications it would be impossible for any contractor to make money?—A. I did not think they conld do it for the money.

Q. Now, will you look at a letter which has been filed here as Exhibit 9, on page 147 of the evidence. It is a letter from Mr. Ryan, secretary of the Transcontinental Railway Commission, to you. We need not refer to the first paragraph, but the second deals with your recommendations contained in the letter to which this is a reply—that is, contained in Exhibit No. 9, (Reads):

'With respect to the other recommendations contained in your letter of the 24th instant reporting in regard to the situation in District "F," I am to say that you are clothed with the necessary authority under the Transcontinental Railway Act to deal with all matters of classification, the construction of temporary trestles, or the borrow of rock, &c., &c., and are therefore in a position to proceed with respect to these matters as in your judgment you think best, having in view the completion of the work at the earliest possible date.

'The commissioners have not reported to them any cases of dispute between the contractors and the engineers with respect to the matters referred to in your report.'

Q. Now that letter from the Commissioners refers the whole matter of classification to you?—A. Yes.

Q. And states that it is within your exclusive jurisdiction under the Transcontinental Railway Act?—A. Yes.

Q. And you of course, Mr. Lumsden, are not able to tell us that the Commissioners ever stated anything different to that to you? That matter was left in your hands by the Commissioners?—A. I never heard that they did anything——

Q. That is you never heard that they—?—A. They gave instructions.

Q. This letter, Exhibit 9, correctly represents the attitude of the Commissioners towards you as regards matters of classification?—A. Yes, but I had no right to change the specification.

Q. Oh no, quite so, that is another thing. What I am principally interested in now, Mr. Lumsden, is, have you told the committee whether this letter accurately represents the attitude which the Commissioners maintained throughout toward you as regards matters of classification, and I think that you said that it does?—A. Yes.

Q. There is a suggestion somewhat similar to that contained in the letter Exhibit 8 in a letter of Major Hodgins of November 9, 1907, addressed to Mr. Parent.

Mr. CHRYSLER.—I do not think that has been produced here as an exhibit. I thought that matter personal to Major Hodgins largely, and that it did not affect this inquiry.

EXHIBIT No. 37.

KENORA, ONT., November 9, 1907.

Hon. S. N. PARENT,
Ottawa.

DEAR SIR,—I was surprised to see in the press your reason for my dismissal, and can only conclude that Mr. Lumsden did not represent to you what the

circumstances were, and what action I proposed to take subject to the board's approval.

Did he tell you that the situation was serious, that sub-contractor Dutton (McArthur's largest sub-contractor) threatened to leave the work and throw up his contract, if he did not get some of the promises made to him by Mr. Grant, and unless I did something to guarantee him that he would not lose money; it was no use his wasting his time. He also said Mr. J. D. McArthur had told him the engineers had their orders from the Commission. (Engineer Tye confirmed this.)

I told those present that I understood that the Chief Engineer had received orders the day I left Ottawa to do something to settle all disputes, and get the work done.

The chief arrived, but suggested nothing; approved of the classification the contractors said was too low; offered no advice, but sat and listened to all what we had to say.

I proposed the easiest way to settle cases of disputed material other than rock, was to ascertain the cost, and classify enough loose rock to bring the contractors out even, adding 10 per cent for use of tools, office expenses and profit. The chief said he had no authority to do this, and admitted that something should be done.

I proposed then that I would give the orders, and be responsible until he laid the case before the board. He agreed to this and told me to remember he could give me no authority. I said if he laid the case forcibly before them they would agree to it, because it was a sound business proposition.

Messrs. A. G. MacFarlane, Willet, Hazlewood, Tye, the chief and myself were at Willet's camp at the time. The first two have notes in their diaries of what took place. In justice to me you ought to ask for copies of these notes.

I told the chief I thought it was what the commissioners wanted, if we could believe what Grant had said, and it would put it up to them to say if they backed him up or not, the air was full of rumours.

I told the chief I would act as Commissioners Young and Reid had advised; they had told me to take as much responsibility as I could and push the work along and under all circumstances not to delay the work pending a decision from Ottawa. The chief admitted that it was a good way out of the difficulty, and again said I can give you no authority. I replied, you can get the authority when you return to Ottawa and wire me. He agreed then to cut short his inspection over the district and hurry back to Ottawa in order that I might know what the commissioners decided before the estimates went in. In the meantime it was understood that I was to go ahead unless I heard from him. We figured out that I should have a wire in five days, and it would take about three months to adjust all disputes included on the lines I laid down, the contractors and engineers would not be wrangling over little things, earth was earth and loose rock was indefinite in the specifications on account of the plough test. The bulk of the contract was solid rock and was not to be included. When I told him I would not allow solid rock to be included he was perfectly satisfied.

We went to Winnipeg together, and he had lots of time to change his mind and order me not to do it if he had wished to. Instead of that he reminded me of a somewhat similar case on the Canadian Pacific Railway short line through Maine when he took over the management and Mr. James Ross took the contract; and I understood him he was going to use this in his argument to the board in favour of my action.

I explained all this to Mr. Young in Winnipeg, who told me that the commissioners could not do what a board of railway directors might, because the latter did not have to submit it to parliament. This was news to me.

If the responsibility I took to keep men on the work, stop wild talk, and

settle disputes until such time as the board could have the case laid before them and deliberate on it, and took the means of laying the case before the board, through the Chief Engineer, and if in my judgment I thought I was doing the right thing, if this is a serious offence, why did not the Chief Engineer object on the ground, and, as Chief Engineer, order me not to do it, and if I persisted discharge me?

All I want is fair play, and I have had differences of opinion with the board and some of the engineers I have done my best during the three years I have worked for the commissioners.

Yours truly,

A. E. HODGINS.

By Mr. Smith:

Q. In the obove letter Major Hodgins says (Reads):

'I proposed the easiest way to settle cases of disputed material other than rock, was to ascertain the cost, and classify enough loose rock to bring the contractors out even, adding 10 per cent for use of tools, office expenses and profit. The chief said he had no authority to do this and admitted that something should be done.

'I proposed then that I would give the orders, and be responsible until he laid the case before the Board.'——And so on. Now did you approve of that recommendation by Major Hodgins?—A. No.

Q. Did you refer it to the Board?—A. I did.

Q. You sent that letter on to the Board by your letter of November 19, 1907?

EXHIBIT No. 38.

OTTAWA, Nov. 19, 1907.

Hon. S. N. PARENT,
Chairman.

DEAR SIR,—In regard to the last clause but one in Major Hodgins' letter to you dated the 9th inst., I may say that Major Hodgins did, as he states, take the responsibility of issuing the instructions to his division engineers, even though I told him I did not and would not approve of them without written authority from the commissioners, and did not then and there order him not to do so, as he personally knew the feelings of the sub-contractors, or their intentions, better than I did, as mentioned to you in my letter of August 27. I did cut short my trip of inspection and hurried back to Ottawa, and verbally reported to the commissioners on August 19. Major Hodgins doubtless believed that in issuing such instructions he was doing what he thought best as a temporary expedient pending a decision, which was sent him by wire on August 24, and I may say that the issuing of these orders by him was not my reason for suggesting a change of district engineers.

Yours truly,

HUGH D. LUMSDEN.

Q. Are you able to put your finger on the reply to Mr. Parent of that letter? At all events do you remember the substance of Mr. Parent's reply? It was in substance that no authority existed to vary the specifications, that the contracts had to be carried out in their entirety, and that no one had any right to interfere with the terms of the specifications or the contract?—A. I do not remember it. I cannot say that it was or was not. I don't remember the letter, it must be here somewhere I suppose.

Mr. SMITH.—If Mr. Parent's letter of August 24, 1907, has not already been filed, I will put it in as an exhibit.

EXHIBIT No. 39.

OFFICE OF THE CHAIRMAN, Aug. 24, 1907.

HUGH D. LUMSDEN,
Chief engineer.

DEAR SIR,—Herewith you will find copy of a memorandum I sent to-day to the secretary of the Board, and copy of his reply, which explain themselves.

It has become evident to me that things have not been conducted so far in District 'F' as they should. This fact was principally impressed on the commissioners as a result of conversations we had with the engineer in charge, Mr. Hodgins, and also of complaints made repeatedly by the Grand Trunk Pacific Railway Company regarding the unsatisfactory progress of work on that section. With a view of securing fuller information on the various parts of the work now under way, namely, in District 'F,' the Commission deemed it advisable to appoint an inspecting engineer, who would keep us posted as desired, and Mr. Gordon Grant was called to fill the position. He went over the ground and made a report which was submitted to the Board, showing that the engineer in charge of District 'F' and his staff of assistants, with a few exceptions, had not devoted to the work in hand all the attention which could reasonably be expected. Among other things, it was stated that the district engineer and his assistants had neither of them since construction began, gone over the work as they should have done. In the opinion of the inspector, reported to the Board, the classification of work has been faulty. In his report, replying to that of Mr. Grant, Mr. Hodgins suggests as a remedy to these defects, that the resident engineers should be the ones to look after the classification. For my part, I entirely disagree with this view. Such a policy would certainly not be conducive to the uniformity desired, and judging from our present experience there, we would very likely have as many different ways of classifying the work as there are engineers. In certain cases, the classification would be too strict, and in others not enough. And again, some engineers on their own judgment might be inclined to put under the arbitrary description of 'force account' items which should be duly classified. This practice cannot be allowed under any circumstances, as entirely contrary to the contracts.

There is a letter from Mr. Hodgins, dated the 6th inst., addressed to you, which should have been submitted to the Board, together with document No. 4 attached, so as to give every available information on the subject. They came to our notice incidentally. It would appear from the contents that after certain items had been classified a change was deemed necessary and other classifications made, which it would seem received his approval. Such a state of affairs shows that there has surely been negligence somewhere in the management of this district, and, from a consideration of these facts, the natural inference would be that the district engineer is not competent to handle properly such work as he is now entrusted with. Under the circumstances it is the duty of the Chief Engineer to take whatever means are required to put a stop to conditions which have already existed too long. Among the points of first importance requiring your attention is to find and suggest a way to the different district engineers and others to ensure, as much as possible, uniform classification according to the plans and specifications on which the contracts are made with the contractors. It is essential that there be no misunderstanding on the subject. In this connection I might point out that the Commission never authorized any one, nor can it do so, to disregard in any respect the letter of our contracts and specifications, which must be the only guide to go by, and that for no reason can anything be paid to the contractors or their sub-contractors which are not provided for in the same. At the same time, it must be borne in mind that contractors are entitled to a fair

and reasonable classification, based as already stated. We cannot deprive them of what is rightfully their own under the contracts and specifications.

It was mentioned by you that Major Hodgins had stated that he had changed the classifications of certain items of work in order to meet our wishes. In that case, he should be informed at once that no such changes should be effected, as any instructions to that effect must come direct from you; and, moreover, inasmuch as the commissioners never instructed him yet in that sense, nor did they express the desire to Mr. Hodgins to make any such changes interfering in any way with his right to make classifications just and reasonable, based upon the specifications.

Furthermore, in order to avoid the risk of any difficulty later on, it should be made a rule as far as possible that the classifications receive the approval of the engineer representing the Grand Trunk Pacific railway at the various points where there is work going on.

In conclusion, as documents explaining changes made in certain estimates of District 'F' were added to the same after they had gone through and without our seeing them, I must decline the responsibility of certifying to the said estimates before being furnished with a full explanation of the matter.

Awaiting a reply at your earliest convenience.

Yours truly,

S. N. PARENT,
Chairman.

By Mr. Smith:

Q. Mr. Parent's letter does not appear, of course, to be in answer to the letter of November as it is dated August 24, but it deals with the same subject matter. (Reads):

'Among other things it was stated that the district engineer and his assistants had neither of them since construction began, gone over the work as they should have done. In the opinion of the inspector reported to the Board, the classification of the work has been faulty. In his report, replying to that of Mr. Grant, Mr. Hodgins suggests as a remedy to these defects, that the resident engineers should be the ones to look after the classification. For my part, I entirely disagree with this view. Such a policy would certainly not be conducive to the uniformity desired, and judging from our present experience there, we would very likely have as many different ways of classifying the work as there are engineers. In certain cases, the classification would be too strict and in others not enough. And again some engineers on their own judgment might be inclined to put under the arbitrary description of 'force account' items which should be duly classified. This practice cannot be allowed under any circumstances as entirely contrary to the contracts.'

That statement was in the letter of August 24 to yourself. Now the meaning of 'force account' is as suggested in Major Hodgins letter, is it not, to take the cost plus ten per cent?—A. Plus ten per cent.

Q. That is what you would call 'force account'?—A. Yes.

Q. And the chairman in this letter disapproves of any of these arbitrary methods of classification and lays down the general principle that the contract must be followed? That is correct, is it not?—A. Yes, but I notice he disagrees with the resident engineer making the classification.

Q. He does not disagree with that?—A. (Reads): 'For my part, I entirely disagree with this view.'

Q. Oh, wait a moment?—A. In his report replying to that of Mr. Grant, Mr. Hodgins suggests, to remedy these defects, that the resident engineer should be the one to look after the classification.

Q. Well at all events he lays down the principle that the contract must be followed?—A. Yes.

Q. In the letter which we read a few moments ago, your letter of 24th September, you stated that there would be considerable difference of opinion even among experienced engineers as to classification?—A. Yes.

Q. The resident engineers are not the men with the largest experience are they?—A. Not generally.

Q. They are the beginners, are they not?—A. As a rule.

Q. They are, so to speak, the lowest on the engineering staff?—A. Yes.

Q. Then you get up to the division engineers and from them to the district——A. The assistant district engineers.

Q. Up to the assistant district engineers and then up to the chief engineer?—A. Yes.

Q. These engineers that are called resident engineers are young men shortly out from college, are they not, many of them?—A. Yes.

Q. They have not the experience of course that the older men have?—A. No.

Q. If they be left to themselves without any absolute standard being fixed for classification I suppose you would not be surprised to find a good deal of margin of variation among them?—A. I would not.

Q. So with this letter of Mr. Parent's what he desired, I suppose, is that there should be some standard fixed as a guide to these resident engineers?—A. Yes.

Q. So that there will be uniformity and not that each man will be following his own idea as to classification? That is the substance of it, is it not—A. I presume so.

Q. Mr. Chrysler draws my attention to a note written by yourself to Mr. Hodgins:

EXHIBIT No. 40.

AUGUST 24, 1907.

A. E. HODGINS, Esq.,
District Engineer,
Kenora, Ont.

DEAR SIR,—Wired you to-day in cypher as follows: completed worshipped obligato argumentative Joseph international transferable drag environ cluck naval beguile assign perplexing convicted antechamber specifications over turned worshipped obligato beguile aria calumination memoralized drag environ significant beguile object antechamber transferable requirable thunder examine wretched likewise stoned till helper soothing clucking.

Which means, commissioners will not approve your instructions to division engineers. Classification must be as per contract and specifications otherwise they will not be approved by me. Division engineers should be notified to so classify and accompany their estimates with letter stating they have so classified.

Yours truly,

HUGH D. LUMSDEN.

You had evidently referred the matter to the commissioners and had a conference with them upon it when you had telegraphed to Mr. Hodgins?—A. I had.

Q. And the position which they took throughout was that the classification throughout was to be made according to the contract and specifications?—A. Yes.

Q. There is a letter from Mr. Parent to Major Hodgins, which reads as follows:

Mr. LUMSDEN.

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EXHIBIT No. 41.

Major A. E. HODGINS,
Kenora, Ont.

OTTAWA, November 21, 1907.

DEAR SIR,—The Chief Engineer has handed in a reply to your letter, and I am sending you a copy of the same herewith, as promised.

Yours very truly,

S. N. PARENT,
Chairman.

That refers to his letter of November 9, Exhibit No. 37, in which the question of classification was discussed. Now, if considerable differences of opinion would exist even among the most experienced engineers in matters of classification, I suppose it would be reasonable to suppose that the margin of variation would be still greater among the young resident engineers?—A. Yes.

Q. And your opinion as expressed in your letter is that even among the most experienced engineers there would be variation?—A. Sometimes there will.

Q. That would seem to indicate the necessity of some standard being fixed, if it were not fixed absolutely in the specification, or if it were fixed in the specification of some interpretation of the specification would it not?—A. Yes, if you don't—the standard in this is measurement.

Q. Well, there is a great deal more than the question of measurement in it?—A. There is in the cemented material, part of it, but not in the rock or loose rock.

Q. Oh, the rock. I understand there is not much difference between you and your engineers at all about what is actually, geologically, and physically, solid rock; there is not much difference between you at all?—A. Not in ledge rock.

Q. No. The difference enters in where you come to a cemented material, that is the root of the position, is it not? Now, you must meet me, Mr. Lumsden, as fairly as you can.—A. You say cemented material. I say cemented material is not rock.

Q. That is what I want to get at. That is the difference of opinion that exists between you and your engineers? I am not suggesting that you are right or that they are right; what I want to get at is to put fairly before this committee what is the root of the difference between you and your subordinate engineers. I want to get that as clearly as I can get it. Now, on the question of actual solid rock there is no difference between you, I suppose, is there?—A. No, it is simply a matter of measurement of solid rock.

Q. That has been measured in all cases has it not?—A. Well it ought to have been. I don't know if it has been in all cases.

Q. Well, my instructions are that it was in every case. Are you able to contradict that, do you know that it was not?—A. I think in one of these statements you will find that solid rock and boulder rock was not in all cases measured.

Q. Ah. Mr. Lumsden, you see we are arguing at cross purposes. I will come to your interpretation later?—A. I think I am under the impression it is also stated that in a particular case they did not measure ledge rock, in one of these cases, I cannot remember which.

Q. At all events my instructions are that ledge rock has always been measured.—A. As a rule I know it has always been measured.

Q. And that is not why you lost confidence in your engineers?—A. Except in one or two cases where in going through cuts which were represented as being ledge rock and comparing the rock on the ground with cross sections you could not make them agree.

Q. We will discuss that later, but your engineers were not setting up any contention at all contrary to your views with regard to solid rock?—A. With regard to ledge rock.

Q. With regard to ledge rock, I will speak of it according to your view as much

as possible. Where there is a difference it is where you come not to solid rock or ledge rock, as you call it, but to rock or boulders massed together, cemented together?—A. Yes, that is the principal difference.

Q. That is the principal thing?

Mr. CLARKE.—Is there any difference about boulders alone?

By Mr. Smith:

Q. There was also a difference of course about the measurement of particular boulders?—A. Yes.

Q. You handed us, Mr. Lumsden, this little book of General Instructions to Civil Engineers concerning Surveys and Construction which was filed as Exhibit 7; I have looked through this book and I do not find anything in it that could be regarded as instructions relating to classification?—A. No, there is not much.

Q. We may say there is nothing at all in this book as far as any instructions to the engineers regarding classification are concerned; that is right, isn't it?—A. I have not looked over this little book. I think there is very little about it in connection with classification, from my recollection.

Q. If there is anything I would be glad if you would show it to us, because I think we start from the same standpoint, Mr. Lumsden, that seeing the possibility of such variation of views among engineers it would be, to say the least, highly desirable that some standard interpretation should be fixed; so that if it were fixed in this book of General Instructions I think it would be a very useful fact to put it before the committee, but I do not find anything there?—A. I don't think there is much of anything.

Q. I find not 'much' only, but I don't find anything at all regarding classification.

By Mr. Moss:

Q. Those instructions must have been got out before the specifications were completed?—A. I am not sure.

Q. This is a book of instructions for preliminary surveys and construction, all gathered together?—A. I think this must have been got out at a very early stage.

Q. I see this copy I have is dated January, 1907, at the foot; I suppose there were editions of this got out from time to time?—A. Not that I remember of.

By Mr. Smith:

Q. You have glanced through that book, Mr. Lumsden?—A. Yes, I don't see anything.

Q. There is nothing there about classifications; now, can you just recall the letter in which Mr. Woods speaks of the classification not being done by the Resident Engineers according to principle but in obedience to arbitrary instructions from the superior; do you remember that?—A. I remember that letter.

Q. Can you give me the date of it? It was filed?—A. It was in September or October, 1907, I think.

By Mr. Smith:

Q. I wish to get this cleared up, Mr. Lumsden; this letter (Exhibit No. 10, p. 148 of the evidence) is dated from Montreal, October 7, 1907, and addressed to yourself by Mr. Woods, complaining of classification. In the last paragraph of it, Mr. Woods says:—'As before stated those over-classifications are not made through error of judgment, nor upon the decision of the Resident or Division Engineers, who are fully acquainted with the character of the work, but by arbitrary orders from their superior;' Now, what is meant by that?—A. You'll find a partial reply to that in my letter to the commissioners of October in which I refer to that statement of Mr. Woods, and state that he is in error.

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Q. Can you put your finger upon that letter? That is a very serious accusation for Mr. Woods to make, isn't it, Mr. Lumsden?

Q. Mr. Woods in that letter of his—'are not made through error of judgment, nor upon the decision of the resident or division engineers, who are fully acquainted with the character of the work'—meant somebody superior to the division engineers?—A. (Reading from his own letter in reply) 'or, as stated by him in the latter part of his letter, by arbitrary orders from their superior.'

Q. But, referring again to Mr. Woods' letter, he says that the error is not an error in judgment, nor upon the decision of the resident or division engineers?—A. Yes, exactly.

Q. So that he is trying to hit somebody higher up than the resident or division engineers?—A. Apparently.

Q. That would mean either the district engineer, the assistant district engineer, or inspecting engineer?—A. Or the Chief Engineer.

Q. Or the Chief Engineer, exactly. Well, that was rather a serious accusation to make, wasn't it?—that this was done through arbitrary orders?—A. Well, I was under the impression that at that meeting he made some explanation of it, or retracted it, or something of the kind, verbally.

Q. Did he not in the presence of all those gentlemen make a pretty full withdrawal of it?—A. He retracted it. My recollection is he retracted that statement altogether.

Q. Do you remember anything being said about his writing a letter withdrawing it?—A. I don't recollect about the letter.

Mr. PARENT.—He was to write a letter.

WITNESS.—I remember Mr. Doucet talking to me afterwards about his writing a letter, and I don't remember that he was to write a letter. I don't remember myself the conversation at that time.

By Mr. Smith:

Q. What I am coming to now is this: in 1907 were there any arbitrary orders from superiors addressed to any engineers, or had there been at that time any interpretation of the specifications for the guidance of the resident engineers?—A. I don't think there were; not written ones. There may have been verbal; it may have been talked over verbally at one time or another. As far as I remember I made no written interpretation.

Q. And so far as you are concerned, and as far as your knowledge of your engineers is concerned, are you able to say whether there was a tittle of truth in Mr. Woods' charge that the classification had been made by arbitrary instructions from superiors?—A. No, I don't know anything of any such instructions.

Q. Do you believe that any such were ever given?—A. No, I can't say that I do.

Q. Have you any reason to suspect that any such were ever given?—A. I can't say there were.

Q. So that in August, 1907, the engineers were left with the specifications, and subject to the variations of opinion which would naturally occur even among experienced engineers, to use your own words?—A. Well, but they were to consult with their division engineers, and the work was to be gone over by them.

Q. The division engineers were somewhat more experienced than the resident engineers?—A. Supposed to be.

Q. But they were not experienced in the same way as the district or the Chief Engineer?—A. Well, they were supposed to be more experienced in the residency.

Q. And even among very experienced men there would be a great difference of opinion?—A. Yes.

Q. So then there was no standard fixed from which uniformity might be expected in the summer, or up to the summer of 1907?—A. No, except from any individual districts, the assistant district engineers were all to see that they were all about alike in the different divisions and residencies.

Q. When did the work begin, and when was the classification begun as part of the engineering work?—A. Well, I should say in 1906, my recollection of it is in 1906. The first contract was let in April or May, 1906.

Q. Then the engineers had been classifying in 1906 and in 1907 without having before them any authoritative interpretation of the specifications?—A. No, they had the specifications.

Q. And at the risk of repeating very, very frequently, those were the specifications that you have told us, and you have said in your letter that I read a while ago, that even very experienced engineers might have wide differences of opinion in interpreting?—A. In some classification, yes.

Q. You had visited some portions of the work from time to time, hadn't you?—A. Yes, all portions.

Q. When did you first visit any portion of the work, and which was the first portion visited?—A. I can't recollect the first portion, whether it was in 'F' or in 'B.' I believe that the site of the Capital Viaduct was one of the first places; that was in 'B.'

Q. You went over about five miles near LaTuque?—A. Oh, yes, that would be in October, 1907.

Q. But I think, if my instructions are right, you went there in July first?—A. We went to LaTuque, then we walked over a small portion of the line.

Q. That would be in July, 1907, and again in October, 1907?—A. Yes.

Q. And of course you then must have seen the classification that was made?—A. Yes.

Q. I suppose you would be able then to determine something of the principle upon which it had been laid?—A. Yes; I did not agree with it in October; I know that.

Q. That is what I want you to refresh your memory about, Mr. Lumsden. Did you at that time find any fault with the classification?—A. Yes, it appeared to me that the proportional amount of rock was too great.

Q. Did you tell the engineers so? Did you tell the resident or the district engineers that you disagreed with the work then?—A. I did not in the presence of Mr. Woods, I don't think, but I would not like to say as to that. I believe I talked to Mr. Doucet about it.

Q. I wish you could give us more definite recollection of it, than that, Mr. Lumsden; my instructions are that you did not indicate your views at all to any of the engineers at that time?—A. I cannot help but think I did, and I certainly did to the commissioners.

Q. In July, 1907?—A. Oh, no, no, not in July, 1907.

The CHAIRMAN.—He is speaking about October.

The WITNESS.—I am talking about October, 1907.

By Mr. Smith:

Q. But you had been there in July, 1907?—A. Yes, but my recollection is I did not remember any classification in July, 1907. We went up to see the classification.

Q. You must have remembered what classification you had seen up to that?—A. I might have, and if I had not the returns I would not know.

Q. But, Mr. Lumsden, going there as Chief Engineer, what would naturally be the first thing you would look at? What would be the first thing you would satisfy yourself about?—A. Was the location.

Q. That would not be that which was going to determine the cost of the work?—

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A. At that point, the location; that is one of the points where the location was changed.

Q. Would not that really be the first thing you would look at?—A. My recollection of it is we went up—I forget what my first visit was for, but I am under the impression it was looking for the location at LaTuque where the two lines had been changed.

Q. At that time did you say anything to any of the engineers in regard to classification?—A. I don't know that I did in July.

Q. Did you ask them any questions as to what principle they were classifying upon?—A. I don't recollect.

Q. You had approved of the specifications yourself?—A. Yes.

Q. And of course you were familiar with the provisions of the specifications with regard to classification particularly?—A. Yes, I thought I was.

Q. And to rock classification?—A. Yes.

Q. And I suppose that at that time also you must have known that upon those specifications there would be wide differences of opinion among experienced engineers; did it not occur to you to say anything to any of the engineers at that time—to ask them how they were classifying?—A. You mean in July?

Q. In July?—A. I don't recollect whether I did.

Q. Well then, let us come on to October; was Major Hodgins there in July with you, when you went there in July, 1907?—A. I think he was.

Q. Can you recall why he went there with you?—A. I think he was asked to go there; I don't recollect now. I think he went up the time yo urefer to. What I remember distinctly is we went up by steamer.

Q. Had his presence there anything to do with the question of classification?—A. I don't recollect that it had.

Q. Was not this the case—that Major Hodgins and some other district engineers were there for the very purpose of discussing with you the question of classification, and to endeavour to arrive at some standard principle?—A. I don't recollect that that was the object of the visit.

Q. Can you remember any such discussion at all?

By Mr. Macdonald:

Q. Was it the object of any visit?—A. The second, the October visit, we did discuss classification, but I don't recollect it in July.

By Mr. Smith:

Q. Was Hodgins there in October as well?—A. No.

Q. I think you have given us the list of those who were present there—some Grand Trunk engineers and Mr. Doucet and Mr. Heustis?—A. Yes, Grand Trunk engineers were there on the steamer trip as well, that is, on the trip by boat.

Q. Well, Major Hodgins based his charges on what he learned on this visit to La Tuque in July.—A. I think I remember seeing something of the kind in the papers, that is all I recollect of it.

Q. Well now the specifications we have had referred to several times, are they in exactly the same terms as the General Standard Specifications for Railway Construction on this continent?—A. I do not know of any standard specifications, most of the railroads have their own.

Q. Well, take, for instance, the Canadian Pacific railway, they have a certain form of specification?—A. Yes.

Q. Does it agree with the terms used in the specifications used in this case?—A. No.

Q. Could you say just in a general way wherein it differs with respect to classification?—A. To rock?

Q. Yes?—A. I think it simply refers to rock.

Q. In its original position?—A. In ledges or boulders, masses.

Q. In their original position, or something of that sort?—A. I cannot remember the terms of it now. I think there are only practically two items mentioned, that is rock in ledge and boulders and detached pieces.

Q. You haven't with you a copy of that?—A. I haven't a copy of those specifications here, I have a copy but I do not know where I can find it.

The CHAIRMAN.—A copy of which?

Mr. SMITH.—Of the C.P.R. tender.

By Mr. Smith:

Q. There is an association with a very long name to it, Mr. Lumsden, 'The American Railway Engineers Maintenance of Way Association?—A. Yes.

Q. I suppose you know all about it?—A. Yes, I know of it, I do not belong to it.

Q. It is a very influential body?—A. I believe so.

Q. In the United States. Have you ever had occasion to examine the standard form of specification adopted by that organization?—A. I do not think so.

Q. It seems they state that solid rock should comprise rock in solid beds or masses, in its original position, which may be best removed by blasting, and boulders or detached rock measuring one cubic yard or over?—A. Yes.

Q. Had you that before you when you drew these specifications, or when you approved of them?—A. I do not think so.

Q. By the way did you draw those specifications or simply approve of them?—A. Most of the preparation was done by Mr. Butler and Mr. Woods.

Q. Did you make any comparisons of the provisions of the specifications which you approved for the Transcontinental with the terms of any other specifications, either of the Canadian Pacific railway or of this American association, or other bodies?—A. I do not recollect doing it.

Q. Of course you see at once the difference in the wording in this American clause, 'rock in solid beds or masses in its original position which may be best removed by blasting' ?—A. That is, not masses in its original position but in masses, it might be a mass of ledge rock that had fallen from a precipice; it would not be in its original position, because it would have come out of the mass, but it would still be a mass of rock.

Q. But you notice, whatever the true interpretation of that is, you notice it varies from the wording used in the Transcontinental?—A. Yes.

Q. Are you able from memory to say whether the wording used in the Canadian Pacific Railway usual form of specifications does not also differ from the Transcontinental specifications?—A. Oh, it does differ from the Transcontinental.

Q. You had some extensive experience with the Canadian Pacific railway?—A. Yes.

Q. They practically take account of only solid rock, do they?—A. Oh yes, they kept track of the boulders as well, boulders as solid rock and boulders as loose rock.

Q. But I mean under solid rock the Canadian Pacific railway practically only consider rock in ledges or boulders over a cubic yard?—A. Or detached rock.

Q. Over a cubic yard?—A. Over a cubic yard, yes.

Q. There wasn't any question of assembled rock?—A. No, there was no such word as 'assembled rock.'

Q. Or anything of that sort under the Canadian Pacific railway?—A. No.

Q. Now you will understand that I put the question always with great respect, Mr. Lumsden, isn't it a fact that your views on this whole question would naturally be considerably influenced by your experience on the Canadian Pacific railway previously?—A. Oh, I think that is natural.

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Q. And they had no such word as 'assembled rock' or 'cemented material' or anything of that sort?—A. Oh, yes they had, I think they did in some cases have 'cemented material.'

Q. Your view has been from the first, hasn't it, that you have practically to deal with two classes of material in dealing with rock, one is solid rock in ledge, and the other the mass of over a cubic yard in contents measurement?—A. Yes.

Q. That, if I may say so, Mr. Lumsden, that idea to a large extent controls your view of the whole question? It does, doesn't it?—A. The idea of it being rock controls my view of it to a great extent, what I know as rock.

Q. If I am not putting it fairly you will correct me, but I gather that your opinion has been, and I think I may say that I believe it still to be, that thie rock classification, solid rock classification, deals with two things, one the solid ledge rock in situ and the other the detached mass measuring a cubic yard?—A. Of rock?

Q. Yes,,of rock?—A. Of rock.

Q. Am I not right in understanding that to be your view?—A. Yes—just say it over again, I am not perfect——

Mr. SMITH.—The stenographer will read the question.

(Question read by stenographer).

A. It is the word 'mass' that bothers me.

Q. It is a troublesome word, isn't it? Isn't that really the troublesome word in the whole thing?—A. The word 'mass,' as I understood it in the specification, and do still, referred to masses of rock which were not boulders but had been detached from the ledge.

Q. And your opinion was that it meant masses of solid rock?—A. Of rock, solid rock.

Committee rose at 1 p.m.

TUESDAY, March 15, 1910.

The committee resumed at 4 o'clock p.m., Mr. Geoffrion in the chair.

The examination of Hugh D. Lumsden continued.

Mr. Moss.—With Mr. Smith's permission, Mr. Chairman, I will produce here copy of the Canadian Pacific Railway General Specification for 1897, which Mr. Lumsden has just looked at and ask him if the classification given here is in accordance with the kind of classification that he was accustomed to on the Canadian Pacific railway. It reads as follows: (Reads).

> Classification, clause 26. Excavation shall be classed under three heads, viz: solid rock, loose rock and earth, and shall be paid for according to the following definitions:—
>
> 27. Solid rock. All stones or boulders found in excavation measuring more than 27 cubic feet, and all solid quarry stones requiring blasting in order to remove it shall be termed solid rock.
>
> 28. Loose rock shall include all kinds of shale, soap stone and other rock, which in the judgment of the engineer can be removed with pick or bar without blasting, also detached stones of more than one cubic yard and more than two cubic feet.'

A. My recollection is we used to have it more than one cubic foot.

Q. Clause 29. Earth. All other excavation of whatever kind shall be termed earth

excavation. I understood you to say a few minutes ago that while the language may not have been exactly the same in all cases that that was the general nature of the specifications which you were accustomed to when you were working on the Canadian Pacific railway?—A. I think so.

The CHAIRMAN.—Are you going to put it in?

Mr. MOSS.—The reporter has taken the quotations; it is not necessary to put it in.

Mr. CLARKE.—What is the date of it.

Mr. MOSS.—The date of this is 1897.

By Mr. Smith:

Q. Mr. Lumsden, at the adjournment and since my asking you some questions about the preparation of estimates, I notice that the matter has been debated in the House of Commons, and in Daily 'Hansard,' at page 5371, I notice that Mr. Haggart says:

> 'First there is a preliminary survey, then there is a location survey. The duty of the engineers in a location survey is to ascertain not only the quantity in the prisms but the composition. How do they do that? The Honourable Minister says that they look at the surface. Not at all. They sink test pits on every portion of the road down to grade line, and they ought to know within ten per cent the proper classification.'

Was anything of that kind done in connection with the Transcontinental?—A. I have known it done, but not very frequently.

Q. Was anything of the kind done in the case of the Transcontinental?—A. I don't recollect it being done.

Q. Did you ever give any instructions to have it done?—A. Not that I recollect of.

Q. As a matter of fact, would it be feasible at all in this country?—A. Well, it is not very often done in this country. It is done in England, I may say, I believe to a great extent, but I don't think it is often done in this country.

Q. Did you ever hear of its being done?—A. I have known test pits to be sunk.

Q. On this continent?—A. On this continent.

Q. But that would be exceptional. That would not be the rule?—A. I have known it to be done, but I don't think it is generally done.

Q. Would it be at all feasible to do it—take this line from Moncton to Winnipeg, would it have been feasible—when I say feasible, of course, it would be possible?—A. It would be possible, but I don't think it would be——

Q. Would it have been practicable?—A. I don't think it would have been done very well.

By Mr. Clarke:

Q. Why could they not do it here as well as in England?—A. The reason they do it in England is because they take so much more time over it. As I understand it, to get the approval of parliament there they have to give all these details.

By Mr. Smith:

Q. I suppose furthermore that the distances in the dear little island would not be quite so great?—A. No.

Q. What would be the expense of such a proceeding?—A. It would cost a good deal of money.

Q. A very great deal?—A. Yes; and a great deal of time.

Q. What would be its practical value?—A. Well, you would probably get a more accurate preliminary estimate of it—of the work.

Q. But would the sinking of test pits give you within 10 per cent at all?—A. Well, if they were sunk frequently enough they might. It would take an enormous expense to do it.

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Q. Would any engineer building a road in this country think of doing such a thing?—A. I don't think so.

Q. And as far, Mr. Lumsden, as the expenditure of the people's money is concerned, would it make one cent of difference?—A. No, I don't know; I don't think, if the contract was let, it would make one bit of difference.

Q. It might tell you beforehand a little nearer the actual cost —A. It will tell you beforehand a little nearer the actual cost.

Q. But as far as the expenditure of public money is concerned, would it have any effect at all in the practical result?—A. It would appear to me that it would cost more to have test pits sunk in first instances, that is, if you wanted to get a very accurate estimate of the work, than it would be to measure it as you went along.

Q. Now, I think we were talking about your opinion of the meaning of solid rock in the specification. You noticed in a good many instances, and you have given a good many instances, examples of classification, which, in your opinion, did not conform to your view?—A. Yes.

Q. And you also very frankly told us that you had confidence in the honesty of the engineers, district and division, and, as far as you knew, the resident engineers? —A. Yes.

Q. So that there must be something in the system which differed from your views?—A. I suppose there must be.

Q. It is fair to suppose that when the honesty of engineers is in question and is established, and we find a considerable amount, not an accidental difference here and there, there is sufficient indication that there is a difference between the views which determined that classification and the view that you expressed this morning?—A. Yes. I wish to note, with regard to my expression regarding rock this morning, that that referred to what my opinion was at the time that we had the discussion in La Tuque.

Q. That was in October, 1907?—A. That was in October, 1907; but that I afterwards, in consultation with Mr. Schreiber, added into the rock assembled rock.

Q. That, you say, was the result of a consultation with Mr. Schreiber?—A. Yes.

Q. Did it alter your own opinion of the specifications?—A. Well, I thought this very word used in the specification, 'masses,' that that was put in to cover the question of massed rock.

Q. And after the complaint of Mr. Woods, dated October 7, 1907, you wrote a letter to the commissioners on October 18, 1907 (see Exhibit No. 11, page 149 of the Evidence)?—A. Yes.

Q. In which you say, 'I may say that from the complaint made by the assistant chief engineer of the Grand Trunk Pacific railway in a letter to me of the 7th instant, and from a verbal statement made to me on the 12th instant by Mr. Doucet, our district engineer at Quebec, it would appear to me some material may be classified as rock which should be classified otherwise; still, as the amount of security held by you for the completion of the work seems to me ample, and the holding back of the estimate at this date without notice to the contractors might be a serious matter, I have approved of these estimates on the distinct understanding that before any further estimates are passed, time be given and a full investigation made into the matter of classification throughout District "B." and that my approval of these or any previous estimate of a similar character should not prejudice the reconsideration and necessary correction of the classification, and consequently of the amount estimated therefor.'

By Mr. Smith:

Q. What do you refer to there when you say 'Some material be classified as rock which should be classified otherwise'—A. Cemented material.

Q. You referred to what was really the difference between you and the district and other engineers?—A. Yes.

Q. You refer to Mr. Doucet's verbal statement there?—A. Yes.

Q. I suppose I am right in assuming that throughout this whole matter there never was any concealment. Mr. Doucet always expressed his views frankly to you on the subject?—A. I remember Mr. Doucet wrote a letter in connection with that.

Q. Did the other engineers likewise show absolute candour in discussing it with you?—A. A number of them wrote letters stating how that had been classified,

Q. And gave you fully and frankly their views of what they have been doing?—A. As far as I know.

Q. You may refer to some of these now. There is a letter dated October 26, 1907, addressed to you by Mr. Doucet?—A. Yes.

Q. That was in reply to a written request from you to Mr. Doucet and the other engineers to give their views in writing?—A. I forget. It was a request.

Q. This will be filed as:

EXHIBIT No. 42.

QUEBEC October 26, 1907.

HUGH D. LUMSDEN, Esq.,
Chief Engineer,
Ottawa.

DEAR SIR,—I have already had occasion to state to you verbally the interpretation the engineers in District 'B' have placed on the classification of solid and loose rock, and in accordance with which the progress estimates have been returned since the inception of the work.

So that our views of this interpretation may be put before you concisely and clearly, I beg now to state: 1. That we have classified as solid rock all ledge work, all boulders measuring more than one cubic yard, all masses of small boulders and cemented material which, in our judgment, were best removed by the continual use of explosives. 2. We have classified as loose rock all detached boulders of more than one cubic foot and less than one cubic yard, and all material which, in our judgment, could not possibly be ploughed in the practical sense of the term.

I have never had occasion to force my views on my assistants at all, they to a man have taken the same interpretation of the classification as I have. We have all used the precautions possible to arrive at a fair classification of materials, and our returns of explosives certainly show that the solid rock has not been over-classified. I have repeatedly conferred with my assistant district engineers on this matter, and they in their turn have gone over the work with the division and resident engineers and classified according to their convictions as to the interpretation of the classification. I attach herewith reports from my assistants on this important question.

Yours very truly,

A. E. DOUCET,
District Engineer.

By Mr. Smith:

Now this letter which we have put in as Exhibit 42 from Mr. Doucet to you reads:

I have already had occasion to state to you verbally the interpretation the engineers in district 'B' have placed on the classification of solid and loose rock and in accordance with which the progress estimates have been returned since the inception of the work.

So that our views of this interpretation may be put before you concisely and clearly, I beg now to state;

1. That we have classified as solid rock all ledge work, all boulders measuring more than one cubic yard, all masses of small boulders and cemented material

which, in our judgment, were best removed by the continual use of explosives?—A. Yes.

2. We have classified as loose rock all detached boulders of more than one cubic foot and less than one cubic yard, and all material which in our judgment, could not possibly be ploughed in the practical sense of the term?—A. Yes.

Q. Up to that date, October 26, 1907, you had not given to the engineers your interpretation of the specification?—A. Except in conversation.

Q. That was in October was it not?—A. That was two or three days before that.

Q. It was really part of this discussion?—A. Yes.

Q. Part of this discussion?—A. Yes.

Q. So that up to that time the resident and division engineers also the district engineers were without any statement in writing from you, giving your interpretation of the specification?—A. I don't recollect of any.

Q. Of course you would know?—A. Well, I think I would.

Q. And the verbal statement was only two or three days previously; it was really part of this discussion on the classification?—A. Yes.

Q. As far as you know, there was no verbal statement of your views prior to that?—A. That I had used?

Q. Of your views to the engineers?—A. There might have been in a casual conversation with one or the other of them, but I don't recollect at present.

Q. But there was no systematic instruction given by you?—A. No, not that I remember.

Mr. MACDONALD.—What date is that?

Mr. SMITH.—October 26, 1907.

Q. Mr. Doucet there says in that letter:

> I have never had occasion to force my views on my assistants at all, they to a man, have taken the same interpretation of the classification as I have. We have all used the precautions possible to arrive at a fair classification of materials, and our returns of explosives certainly show that the solid rock has not been over-classified.

Now, we look at a letter of the same date, dated October 26, addressed by Mr. Huestis to Mr. Doucet, which we will put in as:

EXHIBIT No. 43.

QUEBEC, October 26, 1907.

A. E. DOUCET, Esq.,

District Engineer.

DEAR SIR,—In compliance with your request as to the interpretation I put, and have personally applied to the clauses of the specifications referring to solid rock excavation and loose rock excavation, I beg to say: that in the article 34 the wording 'solid rock excavation will include' suggests that something else than actual rock is to be considered, and thus further down the word 'masses' appears which to my mind covers what solid rock excavation does include, and therefore the word 'masses' in clause 34 I take, and always have taken, to refer to 'masses' of material (not necessarily masses of rock) which might best be removed by blasting.

On District 'B' I apply the word 'masses' more particularly to cemented gravel, on account of the fact that it is best removed by blasting and by continuous blasting.

In article 35, loose rock, all material which could not be sensibly or judiciously ploughed by a plough and six horses, I would consider loose rock, and such

a cut in my opinion would consist entirely of loose rock and solid rock, by actual measurement, with the exception that should a pocket of common excavation be found in a cut, such pocket should be classified as common excavation by actual measurement.

In any conversation with division or resident engineers, I have expressed these as my views.

In reference to the approval of Mr. Woods, assistant chief engineer of the Grand Trunk Pacific, to the classification given on the work of Messrs. O'Brien & Martin, I was present at La Tuque when Mr. Woods visited there in June, and I understood from Mr. Grant that Mr. Woods was there at the time at the request of Mr. John W. Armstrong, to approve or condemn the existing classification. As he did not condemn, the only conclusion was that he approved, and since that time I had no reason to doubt that Mr. Woods' interpretation of the specifications was not the same as my own.

Although Mr. Woods distinctly stated on the trip to La Tuque, just completed, that his interpretation was different to that as expressed by me, yet Mr. Armstrong told me that when he and Mr. Woods visited the work in the early part of October, cut from Station 5950-5969, which is classified by Mr. Bourgeois as 88 per cent S. R., 12 per cent L. R., was judged by Mr. Woods to be 100 per cent S.R. which he could not possibly state on his declared interpretation of the specifications, as the eastern end shows a cut where masses of material rather than ledge rock occur.

Yours very truly,

H. F. HUESTIS,
Assist. District Engineer.

By Mr. Smith:

Mr. Huestis there says:

'In compliance with your request as to the interpretation I put, and have personally applied to the clauses of the specifications referring to solid rock excavation and loose rock excavation, I beg to say: that in the article 34 the wording 'solid rock excavation will include' suggests that something else than actual rock is to be considered, and thus further down the word 'masses' appears, which to my mind covers what solid rock excavation does include, and therefore the word 'masses' in clause 34, I take, and always have taken to refer to 'masses' of material (not necessarily masses of rock) which might best be removed by blasting.'?

A. Yes.

Q. That is the interpretation put on clause 34 of the specification by Mr. Huestis, and that, I take it, does not differ from that contained in Mr. Doucet's letter to you, substantially the same?—A. It looks to be much the same.

Q. Except that Mr. Huestis gives a little reason, gives more reasons for his view in the discussion of the words used in the clause?—A. Yes.

Q. Mr. Huestis further says: 'On District "B" I apply this word "masses" more particularly to cemented gravel, on account of the fact that it is best removed by blasting, and by continuous blasting'?—A. Yes.

Q. You observe that both Mr. Doucet and Mr. Huestis use the words 'continual blasting' or ' continuous blasting,' to distinguish it from incidental or accidental blasting?

Mr. SMITH.—I think my friend, Mr. Chrysler, draws my attention to the fact that the specification used the words, 'that although blasting may occasionally be resorted to'—that is under the heading of loose rock. That would establish a distinction between occasional and continual blasting?—A. Well, you occasionally use blasting very often, in common excavation for that matter, if found profitable.

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Q. That would not be sufficient under the specification, according to the interpretation given by Mr. Huestis, to raise loose rock to the classification of solid rock. It would not be sufficient?—A. I don't think blasting would be sufficient in any case to raise cemented material to the classification of solid rock.

Q. You do not think it would in any case?—A. No; no cemented material other than rock.

Q. Quite so. We are getting pretty well down to see what the difference is, and that is what I am aiming at to put clearly before the committee—I am not going to attempt to decide which is right and which is wrong, but to put clearly before the committee your views and those of your engineers, with whom you differ?—A. Yes.

Mr. CLARKE.—That 'occasionally' is in the classification 'loose rock' and 'common excavation.'

Mr. SMITH.—It was merely to establish the difference between occasional blasting and continuous blasting.

Mr. CLARKE.—If it is occasional only, it may be common excavation?

Mr. Moss.—It may or may not be.

Mr. SMITH.—At all events, if it was only occasional, it is clear it does not raise the classification. The reason I was referring to it was that there was a difference between solid and loose rock.

Q. Mr. Huestis says, 'In article 35 "loose rock," all material which could not be sensibly or judiciously be ploughed by plough and six horses I would consider loose rock; and such a cut, in my opinion, would consist entirely of loose rock and solid rock by actual measurement, with the exception that should a pocket of common excavation be found in a cut, such pocket should be classified as common excavation by actual measurement.' Do you differ from that?—A. I differ from the solid rock. I don't see where the solid rock comes from.

Q. At any rate, you differ from that view?—A. Yes.

Q. Then we go on. Take now Mr. Hervey's letter addressed to A. E. Doucet, as follows:—

EXHIBIT No. 44.

QUEBEC, October 26, 1907.

A. E. DOUCET, Esq.,
District Engineer,
Quebec.

DEAR SIR,—I wish to state that my interpretation of the clauses 34, 35 and 36 of our standard specifications is as follows:—

Clause 35, Loose Rock. I consider loose rock any material that for any reason whatever cannot be ploughed by six horses or that cannot be handled satisfactorily without occasional blasting. When I say cannot be ploughed or handled without the necessity of occasional blasting, I mean handled satisfactorily or in a workmanlike manner, without the necessity of occasional blasting in my judgment or ploughed satisfactorily and in a workmanlike manner in my judgment.

Clause 34—Solid Rock Excavation:—

I consider solid rock excavation any material in ledges or masses of more than one cubic yard which, in my judgment, may be best removed by continued blasting, no matter how it is being removed by the contractors.

Clause 36—Common Excavation—is self-explanatory.

I base my instructions to those under me and my estimates on these interpretations.

Yours very truly,
C. L. HERVEY,
Assistant District Engineer.

By Mr. Smith:

Mr. Hervey says:

I wish to state that my interpretation of clauses 34, 35 and 36 of our standard specifications is as follows:—

Clause 35, Loose Rock. I consider loose rock any material that for any reason whatever cannot be ploughed by six horses or that cannot be handled satisfactorily without occasional blasting. When I say cannot be ploughed or handled without the necessity of occasional blasting, I mean handled satisfactorily or in a workmanlike manner without the necessity of occasional blasting in my judgment, or ploughed satisfactorily in a workmanlike manner in my judgment.

That is his view as to loose rock.

Mr. CLARKE.—What was his position?

Mr. SMITH.—Assistant district engineer. He signs in that quality.

Q. You differ from that view I suppose, as to loose rock, or do you not?—A. No, 'for any reason whatever' I consider that ploughing with six horses means from its hardness, it is so hard it cannot be ploughed. It might be material that might be so soft you could not plough it. I would not consider that loose rock.

Q. How could it be too soft to plough?—A. Because the horses could not get on to it.

Q. Horses would sink in it?—A. Yes, muskeg you cannot plough.

Q. And with that modification I take it that that definition of loose rock would be fairly accurate according to your own view?—A. Except the occasional blasting; I think when material comes to be so hard that it cannot be ploughed by six horses you will have to use powder or an explosive.

Q. Well, if it cannot be ploughed by the six horses, then I suppose you would raise it from common excavation to loose rock?—A. Exactly, if it cannot be ploughed by six horses.

Q. That is practically what Mr. Hervey says?—A. Except that he puts in 'occasional blasting,' before it mentioned loose rock.

Q. He makes it dependent on the inability to plough it satisfactorily and in a workmanlike manner?—A. Yes.

Q. Those qualifying words, don't they strike you as being reasonable? It must mean when it says, 'cannot be ploughed by six horses'—I think it is reasonable to suppose that that means ploughed in a workmanlike manner?—A. They have to be able to plough it, but not to take out a few pieces at a time as I have seen them doing last year.

Q. Not that they might be able to scratch a piece here and there. You would not consider that material to be ploughed?—A. No, only in a short pocket.

Q. Come to clause 34 in the same letter, 'solid rock excavation; I consider solid rock excavation any material in ledges and masses of more than one cubic yard, which in my judgment may be best removed by continual blasting, no matter how it is being removed by the contractors' ?—A. I do not agree with that. I do not consider solid rock any material in ledges or masses of more than one cubic yard.

Q. You will adhere to that, that it must be rock?—A. It must have been stone of some sort.

Q. Rock or stone?—A. Yes.

Q. Well, we will go on to the letter by Mr. Bourgeois, dated also October 26. It is rather a statement than a letter, or a declaration. This is filed as:

EXHIBIT No. 45.

October 26, 1907.

Benjamin Bourgeois, division engineer of division No. 7, declares as follows:

My interpretation of section 34 of the specification is:—

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Solid rock includes all rock in ledges, boulders measuring one cubic yard or more and masses of rock cemented together or any other hard material which must be continually blasted to be removed, which measure one cubic yard or more in the mass but need not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.

My interpretation of section 35 is:—

Loose rock includes all material that can be removed by hand, pick, bar or shovel that cannot be ploughed but may require occasional blasting.

My interpretation of section 36 is:—

Common excavation includes all material that can be ploughed or in other words free shovelling material.

The way the classification of division No. 7 was arrived at is as follows:—

The ledges were measured and the exact amount of ledge rock returned, also all surface boulders measuring one cubic yard or more not included in the cross-sections.

For a few months at the commencement of the work a man was on the line daily doing nothing but measuring the boulders of one cubic yard or more in the cuts and the boulders of one cubic yard or more above the surface of the ground and not included in the cross-sections.

This gave us data as to the percentage of boulders in each cut, such percentage ranging from 30 per cent. to 90 per cent. of the yardage done in the different cuts.

After that we went over the line and estimated the percentages of the yardage of the different cuts that were taken up by masses of cemented rock or other hard material that required blasting to be removed; we had the boulders of less than one cubic yard and not less than one cubic foot measured at the same time as the larger boulders which gave us data as to the percentage of boulders included in the loose rock for each cut and we also estimated the percentage of material that could not be ploughed in each cut but which would not be included in the solid rock.

All other material was returned as common excavation.

I have taken communication of the letters written by Mr. H. A. Woods, assistant chief engineer of the Grand Trunk Pacific, on 7th October last, to Mr. Lumsden, Chief Engineer of the Transcontinental railway, complaining that the specifications have been entirely ignored and an excessive allowance of solid rock made not by reason of an error in judgment but by special instruction from the assistant district engineer and not on decision of resident or division engineers.

The complaints referred to the cuts from stations 5818 to 5826, 5842 to 5860, 5866 to 5875, 5882 to 5901, 6030 to 6046, 6071 to 6078, 6391 to 6394, 6493 to 6504, 6506 to 6512, 6522 to 6548.

My answer to Mr. Woods' accusations as above is that all the classification in each and every cut referred to has been made by the resident engineers and myself according to our best judgment and interpretation of the specifications, and not by special or arbitrary instructions from the assistant district engineer or any other superior officer.

I may say that Mr. Armstrong, who is the engineer of the Grand Trunk Pacific for district 'B,' went over the said works and he never objected to me of our classification. I have 33 years' experience as an engineer, and I have followed in this case the same course that I have done before when I was working with other companies.

I contest the figures given by Mr. Woods in his said letter because they are erroneous and not justified by the continual inspections made of the work by the resident engineers and myself.

I consider that it is not possible for a man like Mr. Woods or any other man to classify such work after a single inspection of the cuts in question. I consider that the classification I and my resident engineers have made over the different sections has been impartial and just, and I persist in holding to this opinion notwithstanding any inspection which has been made by outside engineers after the work has been completed or partly completed.

I declare that I was never forced to classify any of the work aforesaid through arbitrary orders of my superior officers including the commissioners, district and assistant district engineers and the Chief Engineer.

In the month of June last the Chief Engineer, Mr. Lumeden, inspected part of the work with the Grand Trunk Pacific railway engineers, Messrs. Woods and Armstrong, the district engineer, Mr. Doucet and myself. This inspection included some of the cuts in which the classified material now in question exists to a very large extent, and he then expressed no dissatisfaction with the classifications and he did not then make any objections to the classification returned by myself and the resident engineers, and the estimates were approved accordingly.

We have since followed the same interpretation of the classification.

BENJ. BOURGEOIS,
Div. Engineer.

By Mr. Smith:

Mr. Bourgeois says, 'Solid rock includes all rock in ledges, boulders measuring one cubic yard or more and masses of rock cemented together, or any other hard material which must be continually blasted to be removed, which measures one cubic yard or more in the mass but need not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.'

Now, those terms indicate the point where he diverges from your opinion, do they not?—A. 'Or any other hard material.' I do not agree with that.

Q. He says 'even though each separate rock or piece of rock should not necessarily measure one cubic yard' ?—A. That is assembled.

Q. And that is the letter written to you?—A. It should be 'solid rock.'

Q. Loose rock includes all material that can be removed by hand, pick, bar or shovel, that cannot be ploughed but may require occasional blasting. What do you think of that definition?—A. I think loose rock may require continual blasting.

Q. Continual blasting?—A. Yes, 'includes all material that can be removed, by hand, pick or bar or shovel that cannot be ploughed but may require occasional blasting.' I think when it gets so hard it cannot be ploughed, it requires continual blasting.

Q. Would you allow me to keep the sequence of these letters long enough to ask you if it required continual blasting, and it was in masses of over one cubic yard, the masses being over one cubic yard, would the expense to the contractor be the same as if it were according to your views—rock?—A. No, I don't think it would require as much, and very much easier drilled.

Q. It would be easier drilled, and you don't think it would require as large a blast?—A. Exactly, a lot of it would fall, break to pieces and come down.

Q. In the specifications the words used are 'behind a team of six good horses, properly handled; and without the necessity of blasting' ?—A. Yes.

Q. I am reading actually from the specifications?—A. Yes.

Q. Clause 35. How would you reconcile the words 'and without the necessity of blasting'?—A. That is it could be ploughed without the necessity of blasting.

Q. Wait a moment. You notice there is a semicolin after 'properly handled;' ?—A. There may be, I have not got the specifications here.

Q. Have you not got the specification?—A. No, I have not got the specifications. Oh, here is one. (Copy handed to witness.)

Q. It is on page 39. How do you reconcile the use of those words in the specification itself, 'and without the necessity of blasting,' with the statement that you have

just this moment made that it would require considerable blasting?—A. Because I do not see any other way, if cemented material. If it is hard, it cannot be ploughed at all, it should have been in the first instance under solid rock. I mean to say that if cemented material it should not appear there at all, because I cannot see how it can be handled, if it cannot be ploughed, without blasting. Why should it not—if intended to be put solid rock it ought to have gone under the column 'solid rock,' under the heading 'solid rock.'

Q. You do not quite follow me, Mr. Lumsden, I ask you if you can reconcile those words, 'and without the necessity of blasting' with your——A. I acknowledge that the semicolon in here rather bothers me, because I take it it means to be ploughed with a ten-inch grading plough behind a team of six good horses, properly handled, without the necessity of blasting.

Q. You think that was the intention?—A. I know that blasting——I have frequently known blasting to be used in common excavation if it were advantageous to do it.

Q. Yes, but it would be continual?—A. No, it would not be continual, it would be occasionally used in common excavation. But I think with cemented material it might practically be continuous.

Q. You understand I am not trying for one moment to confuse you in the least. You say that looking at this as it is printed there, that the semicolon in the position in which it is rather bothers you. Don't you find it a little difficult to say, as a matter of fact, that when a contract, or rather the specification, uses the words, 'without the necessity of blasting'—don't you find it a little difficult to put your construction on it that it may require continual blasting?—A. But that follows immediately after a test for what would be common excavation and without the necessity of blasting. Reading it in that way it makes—I read it as being in connection with the ploughing.

Q. That is your view at all events?—A. That is my view of it.

Mr. Macdonald.—Is that the specification that was interpreted by Sir Alexander Lacoste?

Mr. Smith.—Yes, I am coming to that.

Q. Now, in Mr. Bourgeois' statement: 'solid rock includes all rock in ledges, boulders measuring one cubic yard or more, and masses of rock cemented together, or any other hard material which must be continually blasted to be removed, which measure one cubic yard or more in the mass, but need not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.'—A. Excuse me, what page is that?

Q. That is at the top of page 237 of the evidence. That is simply another way of expressing the view with which you disagree?—A. I disagree with 'or any other material' under rock.

Q. It must be rock according to your view?—A. It must be rock or masses of rock.

By Mr. Moss:

Q. Geological rock?—A. Yes. I mean what I know as rock is stone of some description.

By Mr. Clarke:

Q. Does that include boulders?—A. That would include boulders.

Mr. Macdonald.—It means geological rock, rock in a geological sense.

By Mr. Smith:

Q. You mean ledge rock?—A. Ledge rock or detached pieces of ledge rock.

Q. Or boulders of one cubic yard?—A. Yes.

Q. Then Mr. Bourgeois also says: (Reads):

Loose rock includes all material that can be removed by hand, pick, bar or shovel, that cannot be ploughed but may require occasional blasting.

Q. That is practically a repetition of the specification? He does not amplify that at all?—A. No.

Mr. CLARKE.—I thought the boulders were in dispute, too, beyond a cubic yard.

Mr. CHRYSLER.—For instance, where they are massed.

Mr. SMITH.—Mr. Lumsden modified that in his definition of assembled rock, and said it might be one cubic foot of stone.

The WITNESS.—As long as it was rock.

By Mr. Clarke:

Q. There is no question about if it is one cubic yard that is solid rock?—A. That is solid rock.

Mr. CLARKE.—That is boulders.

By Mr. Smith:

Q. Then there is a letter to Mr. Doucet from Mr. Allan R. Matthews, Resident Engineer, Residency 26, as follows:—

EXHIBIT No. 46.

A. E. DOUCET, Esq.
District Engineer,
Quebec.

QUEBEC, October 26, 1907.

DEAR SIR,—My interpretation of section 34 of the specification is:

Solid rock includes all rock in ledges, boulders measuring one cubic yard or more and masses of rock cemented together, or any other hard material which must be constantly blasted to be removed, which shall measure one cubic yard or more in the mass, but shall not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.

My interpretation of section 35 is:

Loose rock includes all material that can be removed by hand, pick, bar or shovel, that cannot be ploughed, though blasting may be occasionally resorted to.

My interpretation of section 36 is:

Common excavation includes all material that can be ploughed; or in other words, free shovelling material.

The way the classification of Residency No. 26 was arrived at is as follows:—The ledges were measured and the exact amount of ledge rock returned, also all surface boulders measuring one cubic yard or more not included in the cross-sections.

For the three months at the commencement of the work a man was on the line daily doing nothing but measuring the boulders of one cubic yard or more in the cuts and the boulders of one cubic yard or more above the surface of the ground, and not included in the cross-sections.

This gave Mr. Bourgeois and myself data as to the percentage of boulders in each cut, such percentage ranging from 30 per cent to 90 per cent of the yardage done in the different cuts. After that we went over the line and estimated the percentages of the yardages of the different cuts that were taken up by masses of cemented rock or other hard material that required continuous blasting to be removed. I had the boulders measuring less than one cubic yard and not less than one cubic foot measured at the same time as the larger boulders, which gave Mr. Bourgeois and myself data as to the percentage of boulders included in the loose rock for each cut, and we also estimated the percentage of material that could not be ploughed in each cut, but which could not be included in the solid rock.

All other material was returned as common excavation.

Yours very truly,
ALLAN R. MATTHEWS,
Resident Engineer, Residency 26.

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In the foregoing letter Mr. Matthews says (Reads):

My interpretation of section 34 of the specifications is:

Solid rock includes all rock in ledges, boulders measuring one cubic yard or more and masses of rock cemented together, or any other hard material which must be constantly blasted to be removed, which shall measure one cubic yard or more in the mass, but shall not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.

That is a slight variation in statement but it is substantially the same as the definitions that have preceded—A. The objection I take to it is 'or any other hard material.'

By Mr. Clarke:

Q. Your idea is that would come under cemented gravel, indurated clay and other materials mentioned in clause 35 of the specification.—A. Yes, indurated clay or cemented gravel. It would come under the following clause—loose rock.

By Mr. Moss:

Q. I thought you said it would come in as common excavation, because there is no other place for it?—A. No, I did not.

By Mr. Clarke:

Q. It depends upon whether it could be done without blasting.—A. I say that when it becomes so hard that it cannot be ploughed. That is if it can be ploughed with a ten inch grading plough, behind a team of six good horses, properly handled it is common excavation. When it gets beyond that and cannot be ploughed then it becomes cemented material. In order to remove that—I don't know how you can do that except by the use of blasting.

By Mr. Smith:

Q. Now, will you look at your letter of October 30, 1907, to the Commissioners marked as Exhibit No. 13, page 151, of the evidence. You gave in that letter an account of the meeting at La Tuque?—A. Yes.

Q. Have you got the letter before you?—A. Yes.

Q. (Reads):

'SIRS,—In regard to Mr. Woods' letter to me of the 7th and 8th instant, my letter to you of the 18th instant and the secretary's letter to me of the latter date, I may say that in accordance with the last mentioned letter, I left Quebec, accompanied by yourselves on the evening of the 24th instant, arriving in the vicinity of La Tuque on the morning of the 25th, accompanied by Mr. Doucet, district engineer; Mr. Grant, inspecting engineer; Messrs. Huestis and Hervey, assistant district engineers, Mr. Bourgeois, division engineer, Mr. Matthews, resident engineer; Messrs. Woods and Armstrong, engineers for the Grand Trunk Pacific; and Messrs. O'Brien and Davis, contractors.'

Now that meeting at La Tuque was the meeting at which you said that the Commissioners, or some of them, had expressed some views inclining to the interpretation of the district engineers?—A. Yes.

Q. So when you were addressing this report to the Commissioners, of course, you were telling them something with which they were familiar, they having been present?—A. Yes.

Q. You say (Reads):

'On the arrival near the crossing of the Quebec and Lake St. John Railway, I, accompanied by the engineers and contractors, walked over a portion of the heaviest work on the line from about mile 117 to 122½. From the division or resident engineer I learned the classification allowed by them in the cuts as we

passed through them, and it appeared to me, according to my interpretation of our specifications, that a larger amount of solid rock was returned in them than appearances indicated, and the engineers, in my opinion, returned loose rock or cemented material, where a considerable amount of explosives were used, as solid rock.'

A. Yes.

Q. What steps did you take then to ascertain what the classification had been, apart from asking the resident engineer?—A. I took no steps except their information.

Q. What information they gave?—A. Yes, and what I saw on the ground.

Q. You say in your letter: 'It appeared to me'——?—A. Yes.

Q. 'According to my interpretation of the specifications'——?—A. Yes.

Q. 'That a larger amount of solid rock was returned in them than appearances indicated'?—A. Yes.

Q. Did you take any measurements —A. No I didn't. I made no measurements, I merely saw what it was by appearances.

Q. And could you say how long previous to your having been there the classification had been made?—A. The classification in some places——I mean to say the work was then going on in a good many places.

Q. And in others it had been made how long before?—A. Some time before in some parts of it.

Q. Would some time mean a year or six months before?—A. I think some of the work must have been done a year before that.

Q. Well where the classification was actually in progress you were able to see just where the difference was, were you not?—A. I could see better?

Q. Yes.—A. Where the work was going on I had not the classification because it had not been classified.

Q. But you could see the class of material?—A. I could see the class of material, yes.

Q. And you could see that there was material massed together as well as what you defined before as solid rock?—A. Yes.

Q. And you objected to their classifying anything as solid rock that was not rock in your view?—A. I did at that time.

Q. Did you make the objection at the time on the ground, Mr. Lumsden?—A. I believe so.

Q. To some of the engineers who were not there?—A. Well I must have. I don't know whether it was actually on the ground, but between there and Quebec, I am pretty sure I did.

Q. Did you make it to Mr. Doucet, for instance?—A. I have talked to Mr. Doucet about it.

Q. Did you take any exception to it at the time to Mr. Doucet, or Mr. Huestis, or to the others who were there?—A. On the ground I cannot be positive, I cannot remember if I did or not, but I am satisfied that I spoke about it immediately afterwards.

Q. At all events you did in this letter which I am now reading from of October 30?—A. Yes.

Q. Could you give us any further information at all as to what passed between you and any of the engineers on the ground in regard to the classification?—A. On that trip?

Q. Yes.—A. I don't recollect the details.

Q. Either on the ground or on the train?—A. There was a discussion on the car as I said before. That was in connection with the classification immediately after being over that work.

Q. When you say there was a discussion?—A. They asked me to make my interpretation of it and I made it verbally.

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Q. Verbally. Now in this letter you go on to say (Reads):

'After this interview I requested Mr. Doucet to make a statement, and get statements from the assistant district engineers, and division and resident engineers on this portion of the work of how they interpreted the specifications. This has been done and herewith I beg to hand you a letter from Mr. Doucet, dated the 26th instant, together with letters to him from assistant district engineers Huestis and Hervey, statement from division engineer Bourgeois, and letters from resident engineers, Matthews and Girdwood. I also attach copy of Mr. Doucet's letter of the 21st in reply to Mr. Woods' letter of the 7th inst. Now, those are the letters I have been drawing your attention to?—A. Yes.

Q. Then you go on to say (reads):—

I can only say that I do not concur with the interpretation placed on clauses 34, 35 and 36 of the general specifications by Mr. Doucet or the engineers under him. In my opinion, solid rock excavation, clause 34, covers all material that should be classified as solid rock, namely, all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

That is the definition you gave in writing——A. Yes.

Q. Of the meaning of solid rock in the specifications?—A. Yes.

Q. And you express there your dissent from the views that I have been quoting, the views of these other engineers under you? In this paragraph that I have now read you are referring to what I read from Mr. Doucet's letter and the other gentlemen's letters?—A. Yes.

Q. Then you give your definition of loose rock. (Reads):—

In my opinion, this clause covers all large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock, whether in situ or otherwise, that may be removed by hand, pick or bar; all cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, by being ploughed with a 10-inch grading plough behind a team of six good horses, be properly handled.

Be removed, I suppose it should be. (Reads):—

And without the necessity of blasting, although blasting may be occasionally resorted to.

You simply quote the words there of the specification?—A. Yes; but I leave out the semicolon.

Q. You leave out the semicolon, and you change the punctuation of the clause? —A. The punctuation.

Q. (Reads):—

The fact that contractors may resort to blasting to a greater extent than the word 'occasionally' may infer, in order to facilitate the removal of such material, would not, in my opinion, convert it into solid rock.

A. Yes.

Q. In other words, although the specification said 'without the necessity of blasting,' if more than occasional blasting were resorted to, that would not change the classification at all?—A. I would not think it would make solid rock of it.

Q. In other words the blasting has nothing to do with the determining the standard of that classification?—A. No I don't think the use of explosives has anything to do with the determining of the classification.

Q. Then to continue. (Reads):—

Such being my views, and as stated to you in my letter of the 18th instant, I must decline to certify to any future estimates, except upon classification in accordance with my interpretation of the specifications above mentioned, unless both parties to the contract agree to amend the contract formally, with due con-

currence of the government, or until the estimates are corrected to conform with my interpretation. In any event, I ask that this correspondence be at once submitted to the government.

A. Yes.

Q. You tell us you never asked the government for any ruling on the question?—A. No.

Q. But you did, in this letter, ask that the correspondence——A. Yes.

Q. That is to say, the letters from your assistant, and division, and resident engineers, shall be referred to the government?—A. Yes; that they should see there was a difference betwen us.

Mr. SMITH.—Perhaps, though it is taking things a little bit out of order, I might now refer—

Mr. CHRYSLER.—I am not sure, but did not the file also include those opinions?

Mr. SMITH.—I am coming to that, but I want to refer now to the letter of the Minister of Railways addressed to Mr. Parent, the Chairman of the Commission.

Mr. CLARKE.—Before you pass from classification I would like to ask a question.

By Mr. Clarke:

Q. Suppose you got a rock of a yard or more which could better be removed with a stone-boat than by blasting, how would you classify that?—A. Well, I would classify it as rock.

By the Chairman:

Q. Solid rock?—A. Yes, if it was over a yard.

By Mr. Clarke:

Q. But what meaning would you give to that—'which may be best removed by blasting'—in paragraph 34? It is only what may be best removed by blasting that is solid rock?—A. Well, I should say that referred to some description of shale which could be removed otherwise than by blasting. There is some shale that can be ploughed.

Q. All rock found in ledges, I suppose, is solid rock, no matter what its size?—A. Oh, yes.

Q. Then it says, 'or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting;' if a boulder could better be removed in the same way—A. Well, when it comes to be a cubic yard it is pretty hard to remove it without blasting, out in the country where you are working.

Q. That is not likely to occur?—A. I mean to say it is a heavy piece to move.

Q. Would they blast one stone?—A. Very often they do. Sometimes they do not. They very seldom have machinery that can handle it without blasting it.

By Mr. Chrysler:

Q. There is about 110 lbs. to the cubic foot?—A. 140 or 150, and sometimes 160—between 160 and 170.

By Mr. Clarke:

Q. I should think they could put a couple of teams on it quicker than they could drill it or blast it?—A. It may depend on where it may be. In some places they could crow-bar it and throw it out, but it would weigh two tons, in fact it would weigh over two tons.

By Mr. Smith:

Q. This letter that I am now referring to is Exhibit No. 16, page 155 of these proceedings; (Reads the letter to witness). In that letter the Minister of Railways refers to the law, and sends the correspondence back to the Commission, stating that under the Act the Commissioners and the Chief Engineer have full control of all these

matters, and that the government should not interfere; that is about what that letter amounts to?—A. Yes.

Q. Now, that was the way that your request in your letter of October 30 was dealt with by the government; and I think I am right in saying that in that letter of October 30, addressed to the commissioners, is the first written interpretation that you have made of the specifications?—A. Yes, that is right.

Q. That is the first written interpretation that you made of the specifications?—A. Yes, I think so.

Q. And in that you do not deal with assembled rock in any way whatever?—A. No.

Q. Nor with masses, further than what you say of rock found in masses?—A. Yes.

Q. And I think you also told us that you had had occasion twice since to modify your views upon that interpretation?—A. I did modify them.

Q. Twice, I think you told me. You said you had modified them first with regard to assembled rock?—A. Assembled rock, and then the dimensions of assembled rock.

And that you had further modified them later in the dimensions of the pieces composing rock?—A. Yes.

Q. Now, you told Mr. Chrysler that you had had before you the opinions of certain counsel on the construction of the specifications?—A. Yes.

Q. I suppose that, in common with many engineers, you do not think very much of the opinions of counsel on an engineering question?—A. I don't.

Q. That is very often the case; but will you follow me for a moment now while I ask you to look at the opinions of certain learned counsel, with a view of comparing the opinions of those various counsel with the views of your district, assistant district, division, and resident engineers, with which you did not agree? Now, we will file the opinion of Messrs Shepley and Lafleur; it does not appear to have any date, but in the letter which follows it it is referred to as an opinion dated 9th November; I suppose that is the 9th November, 1907; that is the opinion of Mr. Shepley, of Toronto, and Mr. Lafleur, of Montreal:

EXHIBIT No. 47.

Under the head 'classification' the specifications annexed to the contract between Mr. M. P. Davis and the commissioners of the Transcontinental railway purports in four clauses, 33, 34, 35 and 36, to make certain classification of excavation under the three heads, 'Solid Rock Excavation;' 'Loose Rock,' and 'Common Excavation.' The four clauses are here set out:

'33. Grading will be commonly classified under the following heads: 'Solid Rock Excavation,' 'Loose Rock;' and 'Common Excavation;'

'Solid Rock Excavation.

'34. Solid Rock Excavation will 'include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.'

'Loose Rock.'

'35. All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials that cannot, in the judgment of the engineer, be ploughed with a 10-inch grading plough, behind a team of six good horses, properly handled; and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'Loose Rock.'

'Common Excavation.

'36. Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.'

Our instructions are that stones or boulders in sizes varying from a few cubic inches to many cubic yards have been found in masses cemented together by interposed gravel or other material, and that those masses can only be expeditiously and economically removed by blasting.

The subordinate engineers in superintendence of the progress of the work have treated the excavation of such masses as falling within the specification 'Solid Rock Excavation,' and progress estimates have been based upon that construction of the specification and paid from time to time.

The question is now raised whether this classification is correct and whether the progress estimates can, in case of its being incorrect, be now revised by the chief engineer so as to involve a refund by the contractor of any excess of price paid him upon that basis.

We are of opinion, in the first place, that the specifications for excavation were intended to exhaust all description of excavation, and, therefore, that the excavation of material of the kind mentioned must be classified under one of the three heads named in the specifications.

We are also of opinion that the words 'will include' in specification 34 are intended to be equivalent to 'shall mean.' We think that all rock, whether continuous or cemented together in masses by intervening material, such as gravel or clay, if its removal is best effected by blasting, must fall within specification 34. The word 'blasting,' we think, in this specification means continuous blasting, or blasting as the main and fundamental method of removal, as contrasted with the occasional blasting spoken of in specification 35.

In our opinion, therefore, the classification made by the subordinate engineers was correct, and the progress estimates in this regard need no revision.

A more difficult question is the question whether, if this opinion be not correct, there is now the power in the Chief Engineer to revise the past certificates or estimates. Our instructions are that it is not possible at any time after the completion of the work of excavation to deal with its classification; that such a classification must, to be in any degree accurate, be made as the contractor is doing the work.

The language of clauses 34 and 39 of the contract give much support to the view that classification, under these circumstances, ought to be determined finally before the progress measurements are made. The work is to be measured and computed at the agreed prices and the agreed prices cannot, in the nature of things, be determined without the classification being made. It will not be necessary to deal with this question at all should our opinion on the main question be correct, but we are inclined to the view that under the circumstances which are stated above, the classification ought not to be subject to revision.

GEO. F. SHEPLEY.
E. LAFLEUR.

By Mr. Smith:

Referring to the words:

'Our instructions are that stones or boulders in sizes varying from a few cubic inches to many cubic yards have been found in masses cemented together by interposed gravel or other material, and that these masses can only be expeditiously and economically removed by blasting.'

I suppose that reasonably describes the material that we are dealing with, dosen't it?—A. I think in many cases; there are a number of cases of that.

Q. Would you not say that that was a fair description?—A. Of some cases, not of all of them.

Q. Of the great majority of cases?—A. No; there are a great many cases in which there are no big masses of rock at all.

APPENDIX No. 3

Q. That is another question; if there are no big masses of rock, then that is quite aside from the question when we are dealing with assembled rock?—A. Well, if you are going to refer to assembled rock alone I understand it, or to rock alone.

Q. (Reading):—

> The subordinate engineers in superintendence of the progress of the work have treated the excavation of such masses as falling within the specification 'Solid Rock Excavation,' and progress estimates have been based upon that construction of the specification and paid from time to time. The question is now raised whether this classification is correct and whether the progress estimates can, in case of its being incorrect, be now revised by the chief engineer so as to involve a refund by the contractor of any excess of price paid him upon that basis. We are of opinion, in the first place, that the specifications for excavation were intended to exhaust all description of excavation, and, therefore, that the excavation of material of the kind mentioned must be classified under one of the three heads in the specifications.

That is to say, under solid rock, loose rock or any excavation?—A. Yes.

Q. (Reading):—

> We are also of opinion that the words 'will include' in specification 34 are intended to be equivalent to 'shall mean.'

You may recall that I think it was Mr. Huestis or Mr. Hervey who also referred to the words 'will include' in his definition?—A. One or the other of them did; I don't know which one.

Q. (Reading):—

> We think that all rock, whether continuous or cemented together in masses by intervening material, such as gravel or clay, if its removal is best effected by blasting, must fall within specification 34. The word 'blasting,' we think, in this specification means continuous blasting, or blasting as the main and fundamental method of removal, as contrasted with the occasional blasting spoken of in specification 35.

Now, I take it, you do not agree with that?—A. No, I don't agree with it.

Q. You probably know both of those gentlemen—Mr. Shepley and Mr. Lafleur?—A. I know Mr. Shepley. I think I met Mr. Lafleur, but I don't know that I know him personally.

Q. It is to your knowledge that they are both gentlemen who stand very high in the profession?—A. Oh, I believe so.

Q. And, at all events, you do not think much of their opinion on this?—A. I don't agree with it.

Q. I don't think we need refer to the question of whether those estimates could be corrected or not; that does not arise. Mr. Chrysler asked me whether your reply means that you disagreed with it at that time, or that you disagree with it now?—A. I disagreed with it at that time, and with most of it I disagree now; but you might take out pieces which I would agree with, if you put the material as being a mass of rocks packed together and practically touching each other, and cemented together.

Q. But, as a matter of fact, you disagreed with it then, and you disagree with it still in the main?—A. In the main, yes.

Q. And that, of course, is the great question between you and your engineers?—A. It is one of the principal questions.

Q. We put in the letter of November 13, 1907, signed jointly by Mr. Shepley and Mr. Lafleur. (Exhibit 48.) Referring to the opinion that we have just been discussing, they say:—

EXHIBIT No. 48.

MONTREAL, November 13, 1907.

M. P. DAVIS, Esq.,
Central Chambers,
Ottawa, Ont.

DEAR SIR,—In our opinion, dated 9th instant, we did not express our views as to the classification of loose rock made by the local engineers in District 'B.'

We are clearly of the opinion that there is no error in their interpretation of section 35 of the general specifications for the construction of the National Transcontinental Railway, Eastern Division, and that they are right in regarding as loose rock all material which, in their judgment, cannot be ploughed in the practical sense of the term. If, for example, a given area is so thickly covered with stones and boulders measuring less than one cubic yard that this area cannot be ploughed with a 10-inch grading plough behind a team of six good horses properly handled, then the area in question should undoubtedly come within the classification of loose rock, although the intervening material between the rocks and boulders might not be cemented gravel or indurated clay.

By Mr. Smith:

Q. Do you disagree with that?—A. I do; I disagree with that.

Q. You have no hesitation in expressing entire dissent from that view?—A. I don't agree with it, if the stones can be removed by hand, pick or bar.

Q. They continue:—

It appears to us to be impossible to contend that because by first removing such stones and boulders the soil might subsequently be fit for ploughing, the work must be regarded as falling within section 36 dealing with common excavation. We are of opinion that a given area must be taken as it exists in order to determine the classification and not after it has been artificially treated, otherwise it might be possible to contend that any kind of material could, by artificial means, be reduced to such a condition as to permit of its being ploughed.

Yours very truly,

GEO. F. SHEPLEY.
E. LAFLEUR.

By Mr. Smith:

Q. You also disagree with that?—A. I don't agree with that.

Q. Now let us look at Mr. Ritchie's opinion, which is as follows:

EXHIBIT No. 49.

TORONTO, November 12, 1907.

M. P. DAVIS, Esq.
Ottawa, Ont.

DEAR SIR,—I have carefully perused the general specifications annexed to and forming part of the contract between you and the Commissioners of the Transcontinental Railway, and in reply to the question submitted for my consideration, beg to say I am of opinion that under clause 34 of the specifications, rock found in 'masses' of more than one cubic yard, even though the individual rocks contained in the 'mass' might each measure less than one cubic yard, should be classified as 'solid rock excavation,' provided the rocks forming the constituent parts of the 'mass' are so concreted, welded or assembled together as to form a solid mass, and that such 'mass' in the judgment of the engineer could be best removed by blasting.

I think the words 'one cubic yard' in clause 34 should be construed as applying to the 'mass' and not necessarily to rocks found in and substantially forming that 'mass.'

APPENDIX No. 3

If this clause 34 headed 'Solid Rock Excavation,' had been intended to cover only rock in ledges and rock or boulders measuring more than one cubic yard, then it would have been wholly unnecessary to insert the provisions as to 'masses.'

In my opinion the word 'masses' was inserted so as to extend to and cover cases where rock, though not solid in the strict acceptation of that term, was found in such large quantities in 'masses' over one cubic yard, as could only in the judgment of the engineer be best removed by blasting.

The view I take is, I think, strengthened by the fact that clause 35, headed 'Loose Rock,' does not extend to or cover stones and boulders measuring one cubic yard or over, and presumably these were intended to be covered by section 34, which applies to 'solid rock excavation.'

Having regard to paragraph 39 and other paragraphs of the contract, I am inclined to think it would not be successfully contended that the engineer in case of a mistake in measurement or classification could not rectify the error when making up his final certificate, and that he would not be precluded by progress measurements and certificates from so doing unless indeed it should turn out to be practically impossible after the work had been completed to determine the kind and characteristics of the material in the cut, so as to be in a position to make a proper classification.

Yours truly,

C. H. RITCHIE.

By Mr. Smith:

Mr. Ritchie says:

I have carefully perused the general specifications annexed to and forming part of the contract between you and the Commissioners of the Transcontinental railway, and in reply to the question submitted for my consideration, beg to say I am of opinion that under clause 34 of the specifications, rock found in 'masses' of more than one cubic yard, even though the individual rocks contained in the 'mass' might each measure less than one cubic yard, should be classified as 'solid rock excavation,' provided the rocks forming the constituent parts of the 'mass' are so concreted, welded or assembled together as to form a solid mass, and that such 'mass' in the judgment of the engineer could be best removed by blasting.

A. Well, if it is a mass of rock, as I show in my description, I would almost agree with that. That is pretty nearly what my interpretation eventually meant.

Q. That is, that you came to that view subsequently?—A. Yes.

Q. But this view expressed here by Mr. Ritchie was quite at variance with the views that you entertained up to October, 1907?—A. Yes.

Q. Radically at variance with them?—A. Whether it was other material than rock.

Mr. CLARKE.—That is the same as the other three counsel, isn't it?

Mr. SMITH.—Practically, yes.

By Mr. Smith:

Q. Mr. Ritchie goes on to reason out his opinion:

'I think the words "one cubic yard" in clause 34 should be construed as applying to the "mass" and not necessarily to rocks found in and substantially forming that "mass."'

Q. Have you come to the point where you differ now from his views?—A. I differ from his view a little in the part before:—

Provided the rocks forming the constituent parts of the 'mass' are so concreted.

Well, they might be two-thirds concrete and only one-third rock.

Q. Then you would disagree with him entirely?—A. I would disagree with him then; but if they were all rock together, touching each other and cemented. I would agree with him.

Q. But you would have to amend his opinion considerably before you would be willing to concur in it, I take it?—A. I would.

Q. (Reading):—

> If this clause 34 headed 'Solid Rock Excavation,' had been intended to cover only rock in ledges and rock or boulders measuring more than one cubic yard, then it would have been wholly unnecessary to insert the provisions as to 'masses.'

A. Well, I think the word 'masses' referred to rock that was not boulders, but masses of detached ledge rock.

Q. I understand that you modified that view, though. That was your view in October, 1907, but you don't adhere to it to-day?—A. I adhere still that 'masses' may refer and were intended to refer to detached pieces of ledge rock.

Q. But I suppose you would be willing to extend that somewhat?—A. I have extended it in my subsequent interpretation to a mass of rock which was, I suppose, about two-thirds rock at any rate, or something like that, two-thirds rock, and cemented material.

Q. You subsequently admitted that view, that it meant masses of detached ledge rock, would be untenable? You have conceded that?—A. I have conceded it, but more on account of seeing and reading and going over these.

Q. Now, that is very instructive?—A. That there might have been a misunderstanding.

Q. I think it is fair to us, if you still adhere to your original view, that you should tell us; now, do you or do you not? Was your real opinion influenced or changed by perusing the opinions of counsel or others?—A. Well, between the opinions of counsel and the opinions of the engineers, and my consultation with Mr. Schreiber, I did conclude to change that part of it referring to solid rock.

Q. You say you concluded to change?—A. Yes.

Q. But opinions are really not a matter of choice or volition, are they? Were you convinced?—A. I know what I understood in the first instance when the specification was made, that it was nothing but rock.

Q. So that really, while out of deference to the numerous other opinions expressed you may have consented to modify your expressed opinion, in reality you are like a woman, 'convince her against her will, she holds the same opinion still'; isn't that true?—A. Yes, I held that opinion at the first start until I consulted with Mr. Schreiber and saw the different views taken by the learned counsel and engineers, and I modified it to the extent, as you know, in my subsequent——

Q. But still feeling down deep in your consciousness that your first view was the true view?—A. Well, my first view was the one—when that first interpretation was made, I certainly understood it to be all solid rock.

Q. I hope I am not wearying the committee by going over these opinions of counsel, but this is really the crux of the whole matter.

Mr. MACDONALD.—Go on.

Q. Then Mr. Ritchie continues:

> In my opinion the word 'masses' was inserted so as to extend to and cover cases where rock, though not solid in the strict acceptation of that term, was found in large quantities, 'masses,' over one cubic yard, as could only in the judgment of the engineer be best removed by blasting.

Mr. Ritchie seems to attach a good deal of importance to the opinion of the engineer that it could best be removed by blasting?—A. Yes.

Q. You don't think the question of blasting has anything really to do in determining the classification?—A. No, I don't think the use of explosives has anything to do with determining the classifications.

APPENDIX No. 3

Q. There are two possible views of the same specification, but they are quite radically different, are they not, Mr. Lumsden?—A. I suppose so.

By Mr. Clarke:

Q. Has 'blasting' no meaning in clause 34, if what you have just said is correct—that you do not attach anything to blasting in classification?—A. Not to the classification of material.

By Mr. Smith:

Q. What was it inserted for, Mr. Lumsden?

Mr. MACDONALD.—Perhaps Mr. Lumsden has not got one of the specifications to see what Mr. Clarke means. (Specification handed to witness, page 39.)

WITNESS.—(Reading): '34. Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.' There is some shale rock that could be removed without blasting.

By Mr. Smith:

Q. But what Mr. Clarke, I think, would like to have you say, and what I was trying to elicit from you, Mr. Lumsden, is, what is the scope of the meaning of the reference to blasting in clause 34, and how far does it govern the other words of the clause at all, or have any reference to the other words. Is it introduced for any particular purpose? If so, what is that purpose?—A. Well, I can't answer that question, why it is there.

By Mr. Clarke:

Q. Because I understood you to say a while ago, taking a boulder, for instance, that that always would be blasted?—A. Not always.

Q. Well, generally, and that ledges you would call solid rock, whether that was better removed by blasting or not; I gathered that all rock in a ledge would be included; if I am not right, say so?—A. Well, you might meet ledge rock where it did not require blasting, that is, it was shattered so; that is the only reason I can see for it here—that you might have ledge rock exposed to the weather, and portions of it could be removed without blasting.

By Mr. Chrysler:

Q. How would you classify that, then, Mr. Lumsden?—A. Well, I should be inclined to classify it as rock all the same.

By the Chairman:

Q. As solid rock?—A. Yes.

By Mr. Smith:

Q. Even though it were not necessary to remove it by blasting?—A. Oh yes.

By Mr. Clarke:

Q. Then, according to that, the rock would refer to the masses; the rock found in ledges?—A. No, ledges is where it is particularly necessary.

Q. But you would call that rock, whether it is blasted or not, the rock found in ledges?—A. I would call it rock.

By Mr. Smith:

Q. Would you like to substitute the words 'expedient to remove it by blasting'? Would that express your views?—A. I don't know; I don't see the particular use of the word 'blasting'—and as 'best removed by blasting.' I don't see now what particular good it is there.

Q. This all helps to get at what the real difference of opinion is?

Mr. MACDONALD.—According to the language here, the test of what is solid rock depends entirely upon whether it can be removed by blasting or not.

Mr. SMITH.—One would think so.

Mr. MACDONALD.—Mr. Smith, this language means this—that solid rock excavation not only means solid rock which is solid rock, but it is extended to include 'all rock found in ledges or masses of more than one cubic yard' which 'may be best removed by blasting;' and the test as to whether it is within the meaning of 'Solid Rock Excavation' is whether blasting is the best way to remove it.

Mr. SMITH.—And that is left to the judgment of the engineer.

Mr. MACDONALD.—I suppose so.

By Mr. Smith:

Q. But, Mr. Lumsden, I understand you have just told us that having considered this question, as you must have considered it, very maturely, after all this difference, and after all this discussion, you must have given a great deal of careful and mature consideration to that clause of the specification, and your deliberate opinion now is that those words 'which may be best removed by blasting' really are interjected there without any purpose, you do not see what they are there for at all?—A. Except that you may get ledge rock that has been split up which does not require blasting.

Q. Did you tell me a moment ago that you really did not see what those words were there for?—A. I do not see any particular good of them there.

By Mr. Clarke:

Q. I understand you to say that if you still found that sort of thing you would call it solid rock?—A. Not if it is broken up as rock sometimes is, where it can be removed by hand, pick or bar.

By Mr. Macdonald:

Q. This language does not seem to me possible of any other interpretation, that it does not merely mean geologically solid rock. But you go on and in this language it is intended to include something else that is rock, if it is in ledges or masses of more than one cubic yard, and this rock is of such a character that blasting is the best way to get it out; when you find it that way you say it is solid rock? I have never looked at it critically until this moment.—A. I beg pardon.

Q. It seems to me that your view, I would like to have your judgment, is that solid rock excavation not only means solid rock itself, that is geologically solid rock; but you go on and say in addition to that these words, 'which may be best removed by blasting,' these words will include all rock found in ledges or masses more than one cubic yard, and where you find that blasting is the best way to remove it, that also is solid rock, and must be classified in that way?—A. Yes.

Q. You agree with that?—A. I agree with that if it is rock in ledges or masses more than one cubic yard where you have to use explosives.

By Mr. Smith:

Q. Even if you had masses cemented together, and the mass was more than one cubic yard you say it must be rock and that the cement material between wont——? A. No, I have already stated in my interpretation what is meant by that, that would be assembled rock.

By Mr. Clarke:

Q. Do you agree with the lawyers who say that the words 'will include' in specification 34, which deals with solid rock excavation, are equivalent to 'shall mean' all rock.

Mr. SMITH.—That is in Mr. Shepley's and Mr. Lafleur's opinion.

APPENDIX No. 3

By Mr. Clarke:

Q. That is they confine it, in their opinion, to solid rock, or is it that it is solid rock which is generally understood, and that it includes something further?—A. Which portion did you refer to particularly, Mr. Smith?

Mr. SMITH.—It was Mr. Clarke asked the question.

By Mr. Clarke:

Q. You see the opinion was that it is equivalent to saying that solid rock shall mean all rock that is in ledges, that is what is described there as rock in ledges and masses constitute the whole definition of solid rock?—A. Yes.

Q. It might be suggested that it also meant that if there is what is generally known as solid rock geologically, it includes something more, that is rock in ledges and in masses.—A. Yes, I have taken it to mean something more in my final interpretation.

By Mr. Smith:

Q. In your final interpretation?—A. Yes.

Q. If they are over a cubic yard, but he says there measuring one cubic yard or over.

Q. Mr. Ritchie says further, 'The view I take is, I think, strengthened by the fact that clause 35, headed "Loose Rock" does not extend to or cover large stones and boulders measuring one cubic yard or over, and presumably these were intended to be covered by section 34, which applies to "solid rock excavation."' Do you see the significance of that reference to clause 35?—A. As I understand it, large stones and boulders over one cubic yard are solid rock.

Mr. CHRYSLER.—That is the mass.

By Mr. Smith:

Q. The loose rock does not extend, as he says there, to cover large stones or boulders measuring a cubic yard?—A. No, because they are under solid rock.

Q. Do you see anything in his reference to section 35 as strengthening the view he has expressed in regard to section 34?—A. I do not see how you could put them in 35 and 34 both.

By Mr. Clarke:

Q. What he means by that is that there is nothing in 34 to say that rock—a cubic yard will come in the definition of solid rock; because 35 is limited to those from one cubic foot to one cubic yard, therefore if it is a cubic yard it would come under 34, I think that is his argument; of course you agree with that anyway, that they do come under 34?—A. Yes.

By Mr. Smith:

Q. You have before you for perusal, the opinion of Sir Alexander Lacoste?—A. Yes, I believe so.

Q. That is now put in as Exhibit No. 50. Sir Alexander Lacoste was for many years Chief Justice of the Court of Appeals in the province of Quebec, do you know him?—A. No, I do not know him, I think I have met him, but I cannot say.

Q. You know him by reputation, of course, as a jurist of very high standing; you know his reputation, of course?—A. I believe so.

Q. And you had his opinion, that we now put in as Exhibit No. 50 when you made your final interpretation?—A. I had read it, yes.

EXHIBIT No. 50

MONTREAL, Nov. 20, 1907.

M. P. DAVIS, Esq.,
Ottawa, Ont.

DEAR SIR,—Mr. Davis took a contract from the commissioners of the Transcontinental Railway for the construction of section 'B' of the said railway. Under the terms of that contract, cash payments equal to ninety per cent of the value of the work done are made to the contractors monthly on a written certificate of the engineer that the work for or on account of which the certificate is granted has been duly executed to his satisfaction, and stating the value of such work computed as mentioned, and upon approval of such certificate by the commissioners.

In October last the Chief Engineer was informed that the classification of excavation in the contract under the three headings 'Solid rock excavation,' 'Loose rock excavation,' and 'Common excavation,' had been entirely ignored, and that excessive allowance was made for solid and loose rock, not by reason of an error in judgment, but by special instructions from the assistant district engineer.

A visit was made on the road by the assistant chief engineer, Mr. Woods, and Mr. Armstrong, who is an engineer of the Grand Trunk Pacific, and they confirmed the information given to the Chief Engineer, Mr. Lumsden. The correspondence which took place between the Chief Engineer and his assistants dispels the idea of fraud or of arbitrary conduct on the part of the assistant district engineer. This correspondence shows that the local engineers acted in good faith, applying the contracts as they understood it, and the question seems to me reduced to this,—have the local engineers given a good and fair interpretation to the specifications, and, more particularly to the sections 33, 34, 35 and 36 under the head classification?

Mr. Doucet, district engineer, gives us the interpretation which the engineers in district 'B' have placed on the classification of solid and loose rock, and in accordance with which the progress estimates have been made since the inception of the work, as follows:—Solid rock—'All ledge rock or boulders and cemented material which in our judgment were best removed by the continual use of explosives.' Loose rock—'All detached boulders of more than one cubic foot and less than one cubic yard,, and all material, which in our judgment could not possibly be ploughed in the practical sense of the term.'

Mr. Huestis, assistant district engineer, Mr. Hervey, assistant engineer, Mr. Bourgeois, division engineer, and Mr. Allan A. Matthews, resident engineer, give their own interpretation of the classification clauses, which corroborates that of Mr. Doucet.

In my opinion, the local engineers have well interpreted the contract. The expressions 'solid rock' and 'loose rock' have a special meaning for the purpose of the contract. Solid rock does not only include what is meant generally by that expression, but also all rock or masses of material of more than one cubic yard which may be best removed by blasting; and loose rock comprises stones and boulders measuring between one cubic foot and one cubic yard and all loose rock which can be removed by hand, pick, bar or shovel, all material that cannot be ploughed, provided it can be removed without the necessity (except occasionally) of resorting to blasting. The necessity of blasting seems to be the distinction between solid and loose rock excavation.

In my opinion, therefore, the classifications made by the local engineers are correct, and the progress estimates need no revision.

Notwithstanding clause 39 of the contract, the estimates would practically be conclusive, because the classification of the work being left to the judgment of the

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engineer while it is being performed, and the state of the work being radically altered when it is completed, it would be almost impossible to revise the first judgment.

However, if there has been an evident misconstruction of the contract, the estimates could be revised, but a very clear case would have to be made out, and the burden of proof would be on the commissioners.

Yours very truly,

A. LACOSTE, K.C.

Q. Let us look at this opinion now and see how it agrees with the opinions of Mr. Doucet and others (reads):

'In October last the Chief Engineer was informed that the classification of excavation in the contract under the three headings, "Solid rock excavation," "Loose rock excavation," and "Common excavation," had been entirely ignored, and that excessive allowance was made for solid and loose rock, not by reason of an error in judgment, but by special instructions from the assistant district engineer.

'A visit was made on the road by the assistant chief engineer, Mr. Woods, and Mr. Armstrong, who is an engineer of the Grand Trunk Pacific, and they firmed the information given to the Chief Engineer, Mr. Lumsden. The correspondence which took place between the Chief Engineer and his assistants dispels the idea of fraud or arbitrary conduct on the part of the assistant district engineer.'

That much of the opinion, I suppose, you concur with?—A. Yes.

Q. (Reads):

'This correspondence shows that the local engineers acted in good faith, applying the contract as they understood it, and the question seems to me reduced to this: have the local engineers given a good and fair interpretation to the specification, and, more particularly to the sections 33, 34, 35 and 36 under the head Classification?'

You will, I suppose, agree that there is nothing to show that the local engineers had not acted in good faith?—A. No.

Q. And you agree with Sir Alexander Lacoste in saying that from the correspondence he is satisfied that they did act in good faith, and the only question is whether they have properly interpreted the specifications; that, I suppose, you will accept, Mr. Lumsden?—A. Yes.

Q. Sir Alexander Lacoste continues:—

'Mr. Doucet, district engineer, gives us the interpretation which the engineers in District "B" have placed on the classification of solid and loose rock, and in accordance with which the progress estimates have been made since the inception of the work, as follows:—

Then Sir Alexander quotes from Mr. Doucet's letter::—

'Solid rock—"all ledge rock or boulders and cemented material which in our judgment were best removed by the continual use of explosives.' Loose rock—'all detached boulders of more than one cubic foot and less than one cubic yard, and all material, which in our judgment could not possibly be ploughed in the practical sense of the term.'

Mr. Huestis, assistant district engineer; Mr. Hervey, assistant engineer; Mr. Bourgeois, division engineer, and Mr. Allan, A. Matthews, resident engineer, give their own interpretation of the classification clauses, which corroborates that of Mr. Doucet.'

Sir Alexander has fairly summarized the views of your subordinate engineers?—A. I suppose so.

Q. Reads:

'In my opinion, the local engineers have well interpreted the contract. The expressions "solid rock" and "loose rock" have a special meaning for the purpose of the contract. Solid rock does not only include what is meant generally by that expression, but also all rock or masses of material of more than one cubic yard which may be best removed by blasting; and loose rock comprises stones and boulders measuring between one cubic foot and one cubic yard, and all loose rock which can be removed by hand, pick, bar or shovel, all material that cannot be ploughed, provided it can be removed without the necessity (except occasionally) of resorting to blasting. The necessity of blasting seems to be the distinction between solid and loose rock excavation.'

Now, you have the ex-Chief Justice's opinion, making the use of explosives as practically the determining factor in the classification. That does not agree with what you have said a while ago, that you could not really see why it was put in there?—A. I do not agree with that; I do not agree that the use of explosives makes the difference in classification.

Q. (Reads):—

In my opinion, therefore, the classifications made by the local engineer are correct——

By Mr. Macdonald:

Q. Pardon me one moment; there was a remark there of Mr. Lumsden's, who says that the use of explosives in order to dislodge material which is found in cemented mass has no significance at all?—A. I beg pardon.

Q. You say that the fact that explosives may be used in order to dislodge material which is cemented together or found in ledges to an extent of over one cubic yard has no significance at all?—A. I do not think that the fact of using explosives in order to remove it converts earth into loose rock or loose rock into rock.

Q. But supposing the material is found cemented together and it is necessary to use blasting in order to dislodge it, does the fact that you have to use blasting have any significance under section 34?—A. I think under 35 you would convert gravel and sand——

Q. Excuse me, never mind about 35 now; do you regard the fact that you have to resort to blasting in order to dislodge material found cemented together as having no significance in regard to the interpretation?—A. In regard to rock, I cannot say that it has.

Q. Where you have rock in ledges over a cubic yard, to use your own language, because you drew this thing; suppose you have rock found in ledges more than one cubic yard, if that rock can be removed without blasting it is not solid rock according to your statement here, but if you do use blasting in order to remove it, and if it is blasted in order to remove it, then, according to section 34, it becomes solid rock?—A. Yes; but it is with regard to the other material that I object.

Q. Then the fact that you have to use blasting in order to remove ledge rock is a matter of significance in the matter of interpretation?—A. Yes.

By Mr. Smith:

Q. Do you agree, Mr. Lumsden, with Sir Alexander Lacoste's view, that 'solid rock' and 'loose rock' have a special meaning for the purpose of the contract?—A. I can't see it in that light.

Q. You do not see it in that light; you prefer, in interpreting the contract, to take these words literally; that is the idea, is it? I can see that there is a radical difference of opinion between your views and those of your assistant engineers?—A. Oh, yes.

Q. I want to make that as clear as I can throughout. You are not going to give any special meaning to the words 'solid rock' or 'loose rock' by reason of their con-

text in the contract, or by reason of any other words that are associated with them in the contract; that is your view in interpreting that specification, isn't it?—A. I do not understand exactly what you mean.

Q. Sir Alexander Lacoste begins here by telling us, on page 254 he says:—

> In my opinion the local engineers have well interpreted the contract. The expressions 'solid rock' and loose rock' have a special meaning for the purpose of the contract.

Now, as I understand you, you are not willing to give those words any special meaning; you think that the true construction of the specification is that they should have strictly their literal meaning 'solid rock' and 'loose rock? If you do not follow me, of course, say so, and if I can make it clearer I will?—A. I do not quite understand what you want me to answer; what the question is you want me to answer.

Q. I want you to give me simply your opinion as to whether, when you take up a specification of that kind, and you have reference there to solid rock in 34 and to loose rock in 35?—A. Yes.

Q. Whether you would agree with Sir Alexander Lacoste that those words must receive an interpretation by reason of their use in a particular clause of the specification and by reason of the use of other words in association with them?—A. Why, I suppose there would be.

Q. You must have, at least, adopted Sir Alexander's view to the extent to which you modified your first impression?—A. Yes.

Q. You consented to modify your first expressed view?—A. Yes.

Q. Then when you come down to the question of classification by reason of the use of blasting?—A. Yes.

Q. The question of Mr. Macdonald was designed I think to elicit your reason for disagreeing with Sir Alexander Lacoste when he says 'the necessity of blasting seems to be the distinction between solid and loose rock excavation,' can you amplify your reason for differing from that? We find solid rock and loose rock mentioned?—A. Yes.

Q. And we find in connection with them certain provisions with reference to blasting?—A. Yes.

Q. Sir Alexander's opinion is that those provisions regarding blasting are of so great importance as to practically be determining in their influence?—A. Well, I do not think so.

Q. I know you do not, but why don't you give them the same effect, where is he wrong in other words?—A. Well, because I was taking clause 35, 'loose rock' or what comes under the heading of loose rock, that where you come to material that cannot be ploughed by six horses, which if it can be ploughed would be common excavation, when you come to such hard material as that you have to use explosives in order to advantageously handle it.

By Mr. Clarke:

Q. Then it becomes 'loose rock'?—A. Then it becomes 'loose rock.'

By Mr. Smith:

Q. I suppose no one would think of ignoring in clause 35, the provision with regard to ploughing with six horses; you could not read those words out of the section?—A. No.

Q. They have their influence in determining what is to be classified as loose rock?—A. Yes.

Q. The two English words 'loose' and 'rock' which have a definite meaning?—A. Yes.

Q. And when you are going to give to those words 'loose rock,' the meaning of the contract you have to have reference to the ploughing by six horses, haven't you?—A. Yes.

Q. Why haven't you to have reference to the blasting in the same way?—A. I say that blasting is a necessity in the one case, you cannot handle it, I do not know how you are going to handle it any other way if you can't blast it.

By the Chairman:

Q. You seem to stick to the old theory, although you modified your old view after getting the opinion of counsel you think your old opinion is best still?

Mr. SMITH.—Mr. Lumsden is entitled to his opinion, and he is sticking to it nobly, but what I am trying to show is wherein the difference lies in that opinion.

By Mr. Smith:

Q. Now we will come to another opinion, you know Mr. Beaudin, of Montreal——

By Mr. Clarke:

Q. Before you pass from that allow me one question, referring to what the difference has been over the classification of material. What has been classified as solid rock that you object to? Would you call it cemented gravel?—A. I beg pardon.

Q. Do you understand my point—having in mind the material that the difference of opinion has arisen over?—A. Yes.

Q. Which has been classified by the district engineers as solid rock?—A. Yes.

Q. You might call that cemented gravel, would it come under that heading?—A. I would call it, where there was only a small amount of rock and a large amount of gravel—that would come under the heading of loose rock; if it is——

Q. That is hardly my point; what I want to know is whether or not the material in question which is classified as solid rock would be cemented gravel, would that be the proper definition of it?—A. Some of my objections are made to what I would call cemented gravel being classified as solid rock, that would be among some of that possibly.

Q. Has what you call indurated clay been classified as solid rock?—A. No, indurated clay would not be classified as solid rock.

Q. That has not been done?—A. Well, unless it is a large amount of clay and very few stones in it.

Q. What you think, your viewpoint is, that some stone surrounded by a great deal of indurated clay, forming a mass, that has been classified as rock?—A. Yes.

Q. Which you would classify indurated clay?—A. Yes, but on the other hand I admit that if it is a mass of rocks cemented together by either clay or cemented gravel that then it should be classified as rock.

By Mr. Smith:

Q. But the continual use of blasting would not have any influence in the determination whether it should be classified so or not?—A. I do not think blasting affects it.

By the Chairman:

Q. In the case which you say might be classified as solid rock that of a ledge that could best be removed by blasting?—A. Possibly large boulders.

Q. That could be moved with blasting, I think I understood you that would be taken as solid rock, but you take a ledge where there are large pieces that could be removed even without blasting, that should be classified as solid rock?—A. It is only very seldom you find ledge rock that you can remove except by blasting, but you could come across exposed portions of rock that you might remove a few yards without blasting.

By Mr. Chrysler:

Q. By pick or bar?—A. By pick or bar.

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By Mr. Smith:

Q. Then there is the opinion of Mr. Beaudin concurring in the opinion of Mr. Lafleur, that will be:

Q. You do not happen to know Mr. Beaudin, do you?—A. No, I do not know him.

EXHIBIT No. 51.

M. P. DAVIS, Esq.,
Central Chambers,
Ottawa.

MONTREAL, November 18, 1907.

DEAR SIR,—I have examined the specifications annexed to the contract between you and the Commissioners of the Transcontinental Railway regarding the classification by clauses 33, 34, 35 and 36, and I have read the opinion of Mr. Lafleur, K.C., and concur entirely in the conclusions taken by him.

It seems to me that this classification must be made at the very time the work is done, and that the Chief Engineer cannot revise the decision of his assistants, more particularly after payment has been paid. In my opinion a court of justice would not interfere with the classification made by the subordinate engineers, unless it was alleged by the other side and affirmatively proved by them, that same was fraudulently made, and with the concurrence of the contractor.

Yours respectfully,

S. BEAUDIN.

Q. Of course you have never had occasion—A. That is a legal point, I am not—

Q. But you have never had occasion to suspect that the thing was done fraudulently or with the concurrence of the contractor?—A. No, oh no.

Q. That element of fraud, I take it, from your very frank statement, may be eliminated altogther?—A. I know personally of no fraud.

Q. You have not had any reason to suspect fraud at all?—A. I have no reason to attribute fraud whatever.

Committee adjourned until 11 a.m. to-morrow.

WEDNESDAY, March 16, 1910.

The committee met at 11 o'clock a.m., Mr. Geoffrion, the chairman, presiding.

The examination of Mr. LUMSDEN resumed.

Q. Mr. Lumsden, you had also before you, when you modified your views on the classification of rock the opinion of Mr. Donald MacMaster, I believe?—A. I believe so.

Q. I will file that opinion as:

EXHIBIT No. 52.

IN THE MATTER OF

The contract for the construction of the National Transcontinental Railway, Eastern Division,

and

The specifications attached thereto.

The opinion of counsel is asked as to what constitutes 'solid rock excavation' within the meaning of the specifications and the contract. The matter of classi-

fication is regulated by three clauses in the contract, which with the respective headings, are as follows:—

'CLASSIFICATION.

'33. Grading will be commonly classified under the following heads:—'Solid rock excavation,' 'Loose rock' and 'Common excavation.'

'SOLID ROCK EXCAVATION.

'34. Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

'LOOSE ROCK.

'35. All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock whether in situ or otherwise, that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials, that cannot, in the judgment of the engineer, be ploughed with a 10-inch grading plough, behind a team of six good horses, properly handled; and without the necessity of blasting, although blasting may be occasionally resorted to, shall be classified as 'loose rock.'

'COMMON EXCAVATION.

'36. Common excavation will include all earth, free gravel or other material of any character whatever not classified as solid or loose rock.

'Solid rock excavation' is defined by section 34. Very little doubt can exist as to what is included in the contract under the description 'rock found in ledges.' But what is the meaning of 'masses of more than one cubic yard'? Whatever it means it must be regarded as 'solid rock excavation' whenever in the judgment of the engineer it may be best removed by blasting. Does the expression 'masses of more than one cubic yard,' mean a stone or boulder of more than one cubic yard? Evidently not so, because if that had been the intention, it would have been easy to have so stated, and the draughtsman had the language at hand to so state if such were his intention, for we find in section 35 describing 'loose rock' an express reference to 'large stones and boulders measuring more than one cubic foot and less than one cubic yard.' It would have been equally easy for the draughtsman in section 34 instead of the language used, to have said 'solid rock excavation will include all rock found in ledges and all large stones and boulders measuring more than one cubic yard,' but the draughtsman has not so stated, and these words cannot be read into the specifications. But the very fact that such language has not been used to describe solid rock shows that another interpretation must be given to the words 'solid rock excavation,' and that 'masses of more than one cubic yard' may include other material than rock and rock of less size than one cubic yard whenever the material lying in the masses of the size stated may in the opinion of the engineer be best removed by blasting. If it was the intention that solid rock alone should fall within the classification of 'solid rock excavation,' there was no necessity for using any other description of this classification than 'solid rock.'

'Loose rock' is not described as 'loose rock excavation,' but as 'loose rock.' If 'solid rock excavation' was intended to be solid rock and nothing else it would have been described as 'solid rock'—simply. This view is confirmed by section 33 of the specification in which it is provided under the heading 'classification':—

'Grading will be commonly classified under the following heads: 'Solid rock *excavation,*' 'Loose rock,' and 'Common excavation.'

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Here, though 'Loose rick' is described as such simply, the other two classifications have appended the word 'excavation.'

I am not concerned for the moment with 'common excavation,' but the fact that we have 'solid rock excavation' is antithesis with 'loose rock' simply (without the appended 'excavation') shows that solid rock excavation must include something more than 'solid rock' simply, and *that something* obviously is a mass of material of more than one cubic yard, which in the judgment of the engineer may best be removed by blasting. I have no doubt whatever that this is the proper interpretation of 'solid rock excavation' under this contract, and that the courts if appealed to will so determine.

DONALD MACMASTER.

MONTREAL, October 31, 1907.

By Mr. Smith:

Q. Will you kindly look at that opinion and see how Mr. MacMaster interprets clause 34 of the specification. You see that he first cites the clauses of the specification and then he gives his views.

Q. 'Solid rock excavation' is defined by section 34. Very little doubt can exist as to what is included in the contract under the description 'rock found in ledges.' You agree with that, I believe?—A. Yes.

Q. Also rock is not perfectly well defined, but well understood in substance?—A. Yes.

Q. But what is the meaning of masses of more than one cubic yard? Whatever it means it must be regarded as 'solid rock excavation' whenever, in the judgment of the engineer, it may best be removed by blasting. You disagree with the importance Mr. MacMaster gives to blasting?—A. I disagree about blasting being——

Q. Does the expression 'masses of more than one cubic yard' mean a stone or boulder of more than one cubic yard?

Mr. MACDONALD.—He says he disagrees with Mr. MacMaster. We would like to know what he means by that? I have not been able to find out what he means. He says he disagrees with Mr. MacMaster.

Mr. SMITH.—He disagrees with Mr. MacMaster as to the importance of blasting, as determining the material in any way.

Mr. CHRYSLER.—I think we had better ask him.

By Mr. Smith:

Q. We had some discussion yesterday, Mr. Lumsden, as to the importance of that provision of the specification regarding blasting?—A. Yes.

Q. Both in section 34 and in section 35. Have you considered further since we last met what importance is to be given to the provisions respecting blasting?—A. I have not considered it since we last met, not since yesterday.

Q. I think the committee would like to know your views more fully?—A. My views are that the amount of explosives used do not constitute the difference between one material and the other. That is, if the contractor uses a large amount of explosives in either common excavation or what is called loose rock it does not make it into solid rock.

Mr. MACDONALD.—That is beside the point. The question is—the classification does not say anything about quantities; it is in the judgment of the engineer as to how best to remove the material. That is the test.

By Mr. Smith:

Q. The point is this; of course we all agree with you, but whether a thing is blasting, or whether it is not does not change its chemical composition?—A. That is what I mean.

Q. And in considering a contract with a provision relating to certain substances, and those substances mentioned in connection with the provision that they can only

be removed by blasting, surely the provision as to blasting has something to do with determining what they are under the contract, not what they are chemically, but the meaning they are to have under the contract?—A. I think it has. Under 'rock' it won't be solid unless it requires blasting.

Q. We are getting to seeing eye to eye on this question. Your view all along has been that blasting has nothing to do with it, and even after all the discussion which took place yesterday, you do not know that the word 'blasting' had been introduced at all?—A. In some cases, I don't see what the good of it is.

By Mr. Macdonald:

Q. The words say, 'the test as to how you are going to classify certain material is to be made by the engineer deciding as to whether that material can best be removed by blasting. Is that not right, Mr. Lumsden?—A. Yes.

Q. But if the engineers decide that there is certain material which can best be removed by blasting, the material described in that section of the specifications, then you make the classification accordingly?

Mr. CLARKE.—He is limited by rock.

Mr. MACDONALD.—I am speaking of material described that can best be removed I only want to find out what the understanding was.

By Mr. Smith:

Q. Mr. MacMaster goes on:—Does the expression 'masses of more than one cubic yard' mean a stone or a boulder of more than one cubic yard? Evidently not so, because if that had been the intention it would have been easy to have so stated, and the draughtsmen had the language at hand to so state if such were his intention, for we find in section 35 describing 'loose rock' an express reference to large stones and boulders measuring more than one cubic foot and less than one cubic yard. It would have been equally easy for the draughtsman instead of the language used, to have said 'solid rock excavation will include all rock found in ledges and all large stones and boulders measuring more than one cubic yard,' but the draughtsman has not so stated and these words cannot be read into the specifications.'

What have you to say to that?—A. That the masses included masses of detached ledge rock and boulders over a cubic yard. That is in section 34.

Q. That is your view?—A. Yes.

Q. Why could that not have been expressly stated if that were the intention?—A. Well, for the same reason, why could it not have been stated that cemented material, if it is taken as solid rock and required blasting had not been put in the rock column.

Q. When it refers to masses or only to cubic yards?—A. I said masses of rock, either boulder, detached or ledge rock.

Q. All the boulders must measure one cubic yard?—A. Or over.

Q. That is your settled opinion?—A. Yes, except where it is varied by that alteration in the interpretation.

Q. Your variation was merely a deference to a consensus of opinion against you, but it did not change your real opinion?—A. That is what my interpretation of it was before I made that——

Q. And that is still your opinion, as a matter of fact?—A. By strictly working out literally, or following that out literally with my own ideas.

Q. Strictly, to-day, that is your opinion?—A. Yes, but I made that interpretation.

Q. You made that interpretation in deference to Mr. Schreiber and a number of others who consulted with you?—A. Yes, and Mr. Newcombe.

Q. You have not changed that view?—A. When I made that change, I say there was reason for some difference of opinion.

Q. But still your opinion is clear?—A. My opinion would be practically still the same.

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Q. Then Mr. Macmaster continues, 'but the very fact that such language has not been used to describe solid rock shows that another interpretation must be given to the words 'solid rock excavation,' and that 'masses of more than one cubic yard,' may include other material than rock, and rock of less size than one cubic yard whenever the material lying in the masses of the size stated may, in the opinion of the engineer, be best removed by blasting.' That is directly contrary to the view you have now expressed?—A. Yes.

Q.

If it was the intention that solid rock alone should fall within the classification of 'solid rock excavation,' there was no necessity for using any other description of this classification than 'solid rock.'

You see the idea there?—A. Except he would have to give some dimensions as to what the solid rock would be.

Q. Exceeding one cubic yard?—A. Yes, there ought to be some classification.

Q. We will not go into that opinion there. Then we have an opinion of ex-Justice Wallace Nesbitt. That will be filed as:

EXHIBIT No. 53.

TORONTO, November 26, 1907.

Messrs. MACDONALD & O'BRIEN,
Montreal, P.Q.

DEAR SIRS,—*Re* contract for the construction of the Transcontinental railway (eastern division) and specifications attached thereto.

I am asked for my opinion as to the construction to be placed upon the language used in the specifications in the classification of material.

The classification is dealt with in four clauses, which are as follows:—

Classification.

33. Grading will be commonly classified under the following heads:—'Solid rock excavation,' 'loose rock,' and 'common excavation.'

SOLID ROCK EXCAVATION.

34. Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard which in the judgment of the engineer may be best removed by blasting.

LOOSE ROCK.

35. All large stones and boulders measuring more than one cubic foot and less than one cubic yard, and all loose rock whether in situ or otherwise, and that may be removed by hand, pick or bar, all cemented gravel, indurated clay and other materials that cannot in the judgment of the engineer be ploughed with a ten-inch grading plough behind a team of six good horses, properly handled; and without the necessity of blasting, although the blasting may be occasionally resorted to, shall be classified as 'loose rock.'

COMMON EXCAVATION.

36. Common excavation will include all earth, free gravel, or other material of any character whatever not classified as solid or loose rock.

These clauses purport to cover all material to be excavated to comply with the performance covenanted for by the contractor in the 4th clause, and are intended to embrace all classes of material, and, therefore, in order to cover same an artificial meaning has necessarily been given to each of the generic expressions 'solid rock,' 'loose rock,' and 'common excavation,' usually called 'earth.' The type of case where the classification has not been exhaustive and where unexpected

and undefined material has been met with such as 'gumbo,' and where the engineer has usually given what he has considered a fair sum for the doing of the work, has no application here. I think the engineer must classify under some one of the three heads all the material met with.

I understand that a class of material has been met with where stones and boulders varying in size are found in masses cemented together by forming a conglomerate, and that these masses must in a commercial sense be removed by blasting, and are in fact more difficult to deal with than solid rock.

The question is whether such a class of material falls under the head of 'loose rock' as indicated in Mr. Lumsden's letter to the commissioners, which I have before me, or whether it should be classified as 'solid rock,' as has been done by the engineers in charge of the work.

In clause 35, where 'loose rock' is defined, I think that where the material is capable of being ploughed up by six horses, properly handled, when attached to a ten-inch plough, the intention is to treat such material as 'common excavation'; that where cemented gravel, indurated clay and other materials require occasional blasting to assist the operation of the pick, &c., they are 'loose rock,' but that reading 34 and 35 together and harmonizing the two, where you find a material where 'masses of more than one cubic yard which in the judgment of the engineer can best be removed by blasting' are met with, such material falls within clause 34, and should be classified as 'solid rock.' The material is something that is not in express language described in either clauses 34 or 35, and it might be urged, as has been in many cases, that it came under the head of 'common excavation,' on the ground that anything that was not classified expressly as 'solid rock' or 'loose rock' was covered by the classification of 'common excavation.' Such a construction I think would be strained and revolting to common sense, and, therefore, I think that such material must, as I have said, come within either 'solid rock' or 'loose rock' classification. In my opinion it is properly classified under the head of 'solid rock,' as I think the words of section 34 make it plain that 'solid rock' alone is not meant, but that 'solid rock' it is stated 'will include,' &c., and the use of the words 'will include' indicate that it is not 'solid rock' as such that is to be solely classified as 'solid rock.' I think the words, 'masses of more than one cubic yard which in the judgment of the engineer can be best removed by blasting,' mean 'aggregations of conglomerate material forming a coherent whole,' 'bodies of concrete material,' 'lumps of more than one cubic yard which in the judgment of the engineer may be best removed by blasting.'

I think that when such a coherent mass is met with such mass has been by convention of the parties defined as falling under the description of 'solid rock excavation.' Mr. Lumsden has apparently thought that 'solid rock excavation' means solid rock in its proper sense, whereas in my view the parties have agreed that it shall cover material requiring not occasional but practically continuous blasting where the same is necessary in the common sense commercial handling of the material, upon which classification the engineer, on the ground watching the operations, is surely best qualified to form an opinion.

To sum up and paraphrase, 'solid rock excavation' covers in addition to solid rock proper, material in mass which requires blasting and where occasional blasting will not suffice.

The matter may also, perhaps, be put in another way and one leading to the same result. Is the material here in question not in fact 'rock' within the strict meaning of clause 34? 'Rock,' it must be remembered, is a term of technical significance in the business of railway construction. The word is not used from the point of view of the geologist or of the quarryman, but from that of the excavator. What is 'rock' regarded from that point of view? An indication

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lies on the face of the clauses under discussion. 'Solid rock' is best removed by blasting. 'Loose rock' may be removed by hand, pick or bar. Cemented gravel, &c., included under 'loose rock' cannot be ploughed without blasting. Do not these provisions indicate that the *fundamental basis* of the classification lies in the means necessary for the removal of the material? Does not the term 'solid rock' then include material of the character here in question, which cannot be removed without blasting? In my opinion it does. The material may not be 'rock' in the sense in which the word is used by the geologist or the quarryman, but it is 'rock' in the sense in which the word is used by railway contractors and engineers. To illustrate: a stone the size of a man's head is a solid rock, but because it can be handled in a certain way it is 'loose rock.' A piece of indurated clay is not 'rock,' but because it can be handled in a certain way it is called 'loose rock.' And so a mass which can only be handled by blasting is called 'solid rock' just as actual rock found in a ledge is called 'solid rock.'

Yours truly,

WALLACE NESBITT, K.C.

By Mr. Smith:

Had you that opinion before you, Mr. Lumsden, when you consented to the modification?—A. Yes.

Q. If you follow me, I will read from the last exhibit:

These clauses purport to cover all material to be excavated to comply with the performance covenanted for by the contractor in the fourth clause and are intended to embrace all classes of material, and therefore, in order to cover same, an artificial meaning has necessarily been given to each of the generic expressions 'solid rock,' 'loose rock,' and 'common excavation,' usually called 'earth.'

You told us a while ago that you regarded these descriptive terms as descriptive of the actual geological or chemical formation, or quality or composition of the material?—A. I don't understand exactly what you mean.

Q. A while ago you were saying that solid rock meant rock, and that you were not going to give it any artificial meaning, because it happened to be mentioned in the contract?—A. If it had been distinctly stated in the contract 'cemented material' was to be considered as rock, I would call it rock.

Q. You say it has not been?—A. It has not been.

Q. You say you give these words simply their literal geological meaning?—A. I would not call cemented material loose rock except under the specification.

Q. Simply to recall to you what you said a moment or two ago, that you look upon these various expressions as descriptive of certain physical formations or compositions, and that you are not giving to them any artificial meaning under this contract—A. Outside of where they are specially mentioned as being different, I do not.

Q. Solid rock, you do not?—A. I do not. I do not take in a good many, but solid rock or detached pieces of rock.

Q. That would still be solid rock if it was detached?—A. No. My idea is where the quantity is as much as can be thrown together, without being actually packed together by hand.

Q. That would mean one cubic yard in contents; detached ledge rock would come under your description, as you give it at present?—A. What I added in afterwards:

The type of case where the classification has not been exhaustive and where unexpected and undefined material has been met with, such as 'gumbo,' and where the engineer has usually given what he has considered a fair sum for the doing of the work, has no application here. I think the engineer must classify under some one of the three heads all the material met with.

Q. I suppose you agree with that?—A. Yes.

Q. These three heads are supposed to exhaust all classes of excavation or of assembled material?—A. There might be some exceptional case arise.

Q. Would it have to be classified under one or other of these?—A. There might be some exceptional case arise where you might be obliged to do it by cost plus 10 per cent, where it could not be done owing to working under water.

Q. You have no provision in the contract to deal with anything of that class?—A. I think we have a provision.

Q. In your three classes here 'common excavation,' will include all earth, free gravel or other?—A. Material of any character.

Q. Of whatever nature, except as solid or loose rock?—A. Yes.

Q. Consequently the residuum, whatever it may be, if it be not otherwise, comes under common excavation does it not?—A. Yes.

Q. There is no provision for force account or anything else?—A. No provision as far as the material is concerned for anything else.

Q. In the contract there is no provision for force account?—A. There might be cases where you would necessarily be obliged to do it by force account. You could not do it by measuring it.

Q. Why could you not?—A. Because there are items in the contract which should be done in that way.

By Mr. Macdonald:

Q. What is that ten per cent you speak of?—A. That is what I say.

By Mr. Chrysler:

Q. There is a force account clause in the contract?—A. You strike a piece of exceptional work though, may be earth or sand or rock, and owing to water or some condition you make a special price for it.

By Mr. Macdonald:

Q. That has nothing to do with the classification?—A. No.

By Mr. Smith:

Q. At all events these three exhaust all the material, as far as material is concerned?—A. Yes.

By Mr. Clarke:

Q. Do you blast gumbo?—A. I do not think there is very much good in blasting it.

By Mr. Smith:

Q. Here is what Mr. Nesbitt says with regard to material. There is a great difference of opinion.

I understand that a class of material has been met with where stones and boulders varying in size are found in masses cemented together by forming a conglomerate and that these masses must in a commercial sense be removed by blasting, and are in fact more difficult to deal than solid rock.'

That is by the engineers in charge of the work?—A. Yes.

Q. He put the question fairly?—A. Yes.

'The question is whether such a class of material falls under the head of "loose rock" as indicated in Mr. Lumsden's letter to the Commissioners, which I have before me or whether it should be classified as solid rock, as has been done by the engineers in charge of the work.'

In clause 35, 'where "loose rock" is defined, I think that where the material is capable of being ploughed up by six horses, properly handled, when attached to a 10-inch plough, the intention is to treat such material as "common excava-

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tion" ; that where cemented gravel, indurated clay and other materials require occasional blasting to assist the operation of the pick, &c., they are "loose rock" but that reading 34 and 35 together and harmonizing the two where you find a material where "masses of more than one cubic yard, which in the judgment of the engineer can be best removed by blasting" are met with, such material falls within clause 34, and should be classified as "solid rock"'

You disagree with that view?—A. I should say if that was the cause it should have been under solid rock.

Q. Can I ask you a question first. Is there any cemented gravel at all on this route? What would you call cemented gravel?—A. I have seen some cemented gravel.

Q. Is it not a fact that where masses cemented together are found that it is either of large or small boulders so to speak, there is nothing that is correctly described on that whole route as cemented gravel?—A. I think there must be some cemented gravel.

Q. Have you ever seen any?—A. I could not at the present moment specify any point at which I have seen actual cemented gravel, not what I would call cemented gravel.

Q. Now, there is nothing, Mr. Lumsden, over this whole route, there is no material which can properly be described as cemented gravel at all?—A. I would not like to say that.

Q. That where this material is cemented together it is small boulders or large boulders, but not gravel?—A. All I can say is that I remember seeing in some cuttings what were returned as assembled rock material which looked simply like plain gravel.

Q. Of course you saw that after?—A. I saw it after it had been worked.

Q. After the atmospheric changes had operated for a long time?—A. Of course we dug three or four feet into it in some cases.

Q. It still seemed to be nothing else but gravel?—A. And sand and a few stones.

Q. We will come to that later.

By Mr. Clarke:

Q. I understood you to say yesterday in answer to a question of mine that there was a good deal classified as solid rock which was cemented rock in your opinion?—A. Yes, it came under solid rock by being put in as assembled rock. Of course that made it solid rock.

Q. You say that was cemented gravel? I understood you to say now you did not know that there was cemented gravel?—A. It was what would come under cemented gravel.

By Mr. Smith, K.C.:

Q. What do you describe as cemented gravel?—A. Cemented gravel is a material which cannot be ploughed.

Q. We must get something more definite than that. What composes it? What is the material?—A. Gravel.

Q. How large is gravel?—A. I should say there are different sizes of gravel.

Q. This is just going to bring us to where I want to get your view. There must be some size when the thing will cease to be gravel and be regarded as stone or rock or boulder, is there not?—A. I don't know that there is any standard for the size of gravel.

Q. If we had a lot of stuff cemented together, the particles of which had a diameter of one-half inch, I suppose you would have no difficulty in saying it was gravel?—A. No.

Q. But if you had material composed of stones of four or five inches in diameter, you would not call that gravel, would you?—A. That might be called gravel, yes, sir; 4 or 5 inches, yes.

Q. Four or five inches in diameter?—A. It would be coarse gravel.

Q. Come up more. Say if we had it 8 or 9 inches in diameter, would you still

call it gravel?—A. Well, it would be getting pretty heavy gravel by that time; that is, if it was all gravel.

Q. Of course I am not an engineer, Mr. Lumsden, but I should think that stones 9 inches in diameter would be, as you put it, rather heavy gravel?—A. Yes, I would say so.

Q. In fact you would not think of calling it gravel? Would any engineer call that cemented gravel?—A. I don't think you could hardly call it gravel.

Q. The line of demarcation would be somewhere below that Where would it be, because if you are speaking of stone 6 inches in diameter as assembled gravel or cemented gravel, that might account for the difference of opinion between you and some of the others?—A. What I say is that a stone, say 6 inches, or half a dozen stones 6 inches, in a yard of smaller stones would not prevent it being gravel.

Q. Supposing the majority of them ran to that, you say you would not call it gravel?—A. No, I do not think that I would, not unless they were somewhere about 6 inches.

Q. But you think anything under 6 inches you would call cemented gravel?—A. It would depend whether it was cemented or not. We will take it for granted that it was cemented, you would call it cemented gravel and not assembled rock?—A. If it were 5 inches and under I would not call it assembled rock.

Q. You would call it cemented gravel?—A. Yes.

By Mr. Moss:

Q. The size of the stones would be the same in cemented gravel as uncemented gravel —A. The size of the stones would be the same.

By Mr. Smith, K.C.:

Q. The question I am asking is this: I have been told by the men who have been over the ground that there is no such thing at all as what is known as cemented gravel on this route?—A. Well, I cannot say there is no such thing.

Q. But you cannot say that it does exist to any extent?—A. I know I have been told it was returned as cemented gravel; that it was cemented.

Q. But from your own observation, you don't know whether it is or not?—A. I don't recollect at the present moment the point where you could call it really cemented gravel.

Q. You spoke of somebody having told you, now who was it?—A. I have heard the expression made use of that it was returned as cemented.

By Mr. Moss:

Q. Cemented material?—A. Cemented material.

Q. Not cemented gravel?—A. Cemented material may have been the word used.

By Mr. Clarke:

Q. What is cemented gravel. What is the cement in it for?—A. That is what I cannot answer.

By Mr. Smith:

Q. It may be clay; it may be indurated material. Sand would contribute to make it like mortar, I suppose.

Mr. CLARKE.—It becomes concrete, I suppose.

By Mr. Moss:

Q. It is a rock in the making, is it not?—A. I don't think it would ever become rock.

Q. Would it become a conglomerate?—A. No, I think not, the conglomerate rock is exceptionally hard rock.

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Q. Conglomerate rock is prepared in that way —A. Conglomerate rock is apparently gravel.

Q. Conglomerate rock was at one time gravel?—A. Yes, but it seems to have been fused together in some way.

Q. All you know is it is cemented pretty frequently when it is conglomerate. —A. When it is cemented it will break through the outsides, instead of following the stones; it will break through.

Q. You told us yesterday that the cost to an engineer would be less in dealing with cemented material that had small stones in it than otherwise. Now, in speaking with some of the engineers since yesterday they tell me it is much more difficult to deal with, that it destroys the instruments, and it is harder to drill than it is to drill in solid rock or ledge rock or shale?—A. You are referring to cemented material?

Q. Yes, that it is most difficult stuff to handle?—A. Not unless it is fallen boulders.

Q. With cemented material, with boulders?—A. Yes, if you put the boulders in it, that is part——

Q. It becomes then very difficult to drill or deal with?—A. That is one reason why we made that change in the rock, in my final interpretation, was that the fact of drilling through stones of considerable size and through little seams of softer material, it made it very hard drilling.

Q. It breaks your drill very often?—A. The holes are liable to go crooked and get jammed.

Q. That is one of the reasons why you changed your final interpretation?—A. That is part of it.

Q. At all events, I am assuming, or I might assume, that it is notorious among engineers that assembled rock of that kind, containing boulders, irrespective of the boulders, if they are large enough to be called boulders makes that material very difficult to deal with?—A. Yes. But if you only put a small boulder in a yard of stuff, you might strike it, or you might not strike it.

Q. If you are boring through one material and you have got in a cubic yard of another piece of material, that adds nothing to the reasoning. We are talking of assembled material such as is met with there, pieces of boulders of varying sizes cemented together; if you have any cemented rock, you do know it to be very difficult to deal with?—A. If it says so in assmbled rock, it is. But if it is only with stone in a small size, it would not.

Q. You would not bore at all if there was no stones there?—A. You might.

Q. Why?—A. If it is material you could not plough; I don't know how you would move it unless you blasted it.

Q. Well, if it were material of that kind I suppose you would have to classify it to some extent with reference to the blasting, would you not?—A. You would classify it—if it was cemented material, and you could not plough it, I would say that it would be loose rock.

Q. Provided it were rock?—A. It would be loose rock under the specification.

Q. Whether there was any rock in it or not?—A. Whether there was any stones in it or not, if it were cemented gravel or indurated clay.

Q. If it was only clay?—A. If it was only clay, not cemented gravel, it would be common excavation.

Q. So you do not give to each of the words in the specification their literal meaning, you interpret some of them with respect to the rest of the specification where they require it. Now, let us take Mr. Nesbitt's opinion. (Reads):

> In clause 35, where 'loose rock' is defined, I think that where the material is capable of being ploughed up by six horses, properly handled, when attached to a ten-inch plough, the intention is to treat such material as 'common excavation': that where cemented gravel, indurated clay and other materials require occasional

blasting to assist the operation of the pick, &c., they are 'loose rock,' but that reading 34 and 35 together and harmonizing the two, where you find a material where 'masses of more than one cubic yard which in the judgment of the engineer can best be removed by blasting' are met with, such material falls within clause 34, and should be classified as 'solid rock.' The material is something that is not in express language described in either clauses 34 or 35, and it might be urged, as has been in many cases, that it came under the head of 'common excavation,' on the ground that anything that was not classified expressly as 'solid rock' or 'loose rock' was covered by the classification of 'common excavation.' Such a construction, I think, would be strained and revolting to common sense, and, therefore, I think that such material must, as I have said, come within either 'solid rock' or 'loose rock' classification. In my opinion, it is properly classified under the head of 'solid rock,' as I think the words of section 34 make it plain that 'solid rock' alone is not meant, but that 'solid rock,' it is stated, 'will include,' &c., and the use of the words 'will include' indicate that it is not 'solid rock' as such that is to be solely classified as 'solid rock.' I think the words, 'masses of more than one cubic yard which in the judgment of the engineer can be best removed by blasting,' mean 'aggregations of conglomerate material forming a coherent whole, 'bodies of concrete material,' 'lumps of more than one cubic yard which in the judgment of the engineer may be best removed by blasting.'

Mr. Nesbitt's vocabulary has added something to the words descriptive of this material, what do you think of them there?—A. I don't agree with him that masses of other—of cemented gravel or indurated clay, even if they require blasting, become solid rock.

By Mr. Macdonald:

Q. You seem to speak about these things changing their substance when they are classified, Mr. Lumsden. Continually in expressing it you speak of it in that way. Is there any distinction between classifying material under one of these three heads and the matter itself actually changing its inherent character and becoming solid rock, assembled rock, or loose rock, as the case may be? You seem to speak of it as if the material itself changed instead of the classification; is that what you mean? You used the expression a moment ago 'that you did not think that that caused it to become solid rock.' Do we understand you to mean by that, that you don't consider the material itself changed, or that the classification changed?—A. I mean it did not come under the heading of solid rock.

Q. For the purpose of classification?—A. For the purpose of classification.

By Mr. Smith:

Q. Supposing you had a concrete in which none of the stones were more than two inches, supposing you had an absolute concrete?—A. That is——

Q. How would you classify that, cemented solidly together?—A. If it was concrete, as hard as concrete, I would have to make a special price for it. If it was concrete that had to be removed—for instance, if some whole concrete structure had to be removed, I think we would have to make a price for it or agree with the contractor to call it rock.

Q. Would the specification itself afford you any means of classifying that?—A. If it was artificially made concrete, I think I would make——

Q. We won't say artificially made concrete, but what would be equivalent to concrete, masses of small material, two-inch stones so completely welded or cemented together as to make it equivalent to concrete?—A. I think——

Q. You would have to make a special price?—A. I think I would.

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Q. Now Mr. Nesbitt in the next paragraph criticises your view, Mr. Lumsden, and I think you are entitled to have an answer. You are entitled to answer now. (Reads):

> I think that when such a coherent mass is met with such mass has been by convention of the parties defined as falling under the description of 'solid rock excavation.' Mr. Lumsden has apparently thought that 'solid rock excavation' means solid rock in its proper sense, whereas in my view the parties have agreed that it shall cover material requiring not occasional but practically continuous blasting where the same is necessary in the common sense commercial handling of the material, upon which classification the engineer on the ground watching the operations is surely best qualified to form an opinion.

Now, Mr. Nesbitt has had his criticism of you there?—A. Yes.

Q. I think you owe it to him and to the committee to answer his views, Mr. Lumsden, upon that. What do you say?—A. I cannot agree that masses are to be taken for anything else but for rock, or as defined in my last interpretation of it, masses of rock cemented together.

Q. The only thing you have to say is that you entirely disagree with Judge Nesbitt?—A. I cannot say that I agree with him.

Q. Then he sums up. (Reads):—

> To sum up and paraphrase, 'solid rock excavation covers in addition to solid rock proper, material in mass which requires blasting and where occasional blasting will not suffice.'

And that you disagree with?—A. Yes, I disagree with it except under my——

Q. Within the limits of your modified interpretation?—A. Within the limits of my modified interpretation.

Q. Judge Nesbitt goes on to say. (Reads):—

> The matter may also, perhaps, be put in another way and one leading to the same result. Is the material here in question not in fact 'rock' within the strict meaning of clause 34? 'Rock,' it must be remembered, is a term of technical significance in the business of railway construction. The word is not used from the point of view of the geologist or of the quarryman, but from that of the excavator. What is 'rock' regarded from that point of view? An indication lies on the face of the clauses under discussion. 'Solid rock' is best removed by blasting. 'Loose rock' may be removed by hand, pick or bar. Cemented gravel, &c., included under 'loose rock' cannot be ploughed without blasting. Do not these provisions indicate that the *fundamental basis* of the classification lies in the means necessary for the removal of the material? Does not the term 'solid rock' then include material of the character here in question, which cannot be removed without blasting? In my opinion it does. The material may not be 'rock' in the sense in which the word is used by the geologist or the quarryman, but it is 'rock' in the sense in which the word is used by railway contractors and engineers.

A. That has never been my—it has never been my experience before this, that other material than stone was called rock.

Q. And this reasoning of Judge Nesbitt does not appeal to you at all?—A. Not in that way, no.

Q. Take this fine illustration. (Reads):—

> To illustrate: a stone the size of a man's head is a solid rock, but because it can be handled in a certain way it is 'loose rock.' A piece of indurated clay is not 'rock,' but because it can be handled in a certain way it is called 'loose rock.' And so a mass which can only be handled by blasting is called 'solid rock' just as actual rock found in a ledge is called 'solid rock.'

A. I don't agree with the latter part.

Q. Well, now, that I think will complete the opinions of general counsel. It was after all these opinions had been perused by you that you consulted Mr. Collingwood Schreiber?—A. Yes.

Q. Did Mr. Schreiber have all these opinions before him as well?—A. I cannot say whether he did or not.

Q. Had you heard from the Department of Justice before you made your modified interpretation?—A. Yes.

Q. And did it influence you to some extent?—A. It influenced me to take out the dimensions which stones should be to make it——

By the Chairman:

Q. Did it influence only or did it convince you?—A. It influenced me only. I thought—my own idea was still to have kept in a foot of rock, but Mr. Schreiber did not seem to think it was necessary and Mr. Newcombe, the Deputy Minister of Justice, did not think it was necessary, and I thought that engineers knew gravel from rock and let it go.

By Mr. Smith:

Q. Did Mr. Schreiber ever give any interpretation in writing? Has he given his opinion in writing on this question at all? I have not been able to find it here, Mr. Lumsden?—A. I don't think his opinion is here.

Q. Then all that he had to say he said to you orally?—A. No, he gave it to me in writing.

Q. Have you kept it; have you got his letter there?—A. No, I don't think I have.

Q. Did you keep it?—A. It is somewhere. I may have the letter.

Q. Was that ever given to the commissioners, Mr. Schreiber's opinion?—A. It is not in the shape of an opinion. It is only a specification drawn out in his own words.

By Mr. Clarke:

Q. His interpretation of the standard specification?—A. Yes.

By Mr. Smith:

Q. Did he hand that to you?—A. He handed that to me, either handed it to me or sent it to me. I think he handed it to me.

Q. Was it in the form of a letter addressed to you or simply a statement of his interpretation?—A. I cannot say whether a letter accompanied it or not. I know it is in the shape of an interpretation but whether it was accompanied by a letter or not, I am not sure.

By the Chairman:

Q. And that was given to you only, you didn't give it to the Commissioners?—A. I did not give it to the Commissioners, not that letter. At least I do not think I have got that letter, or that interpretation if it is not a letter.

By Mr. Smith:

Q. There is a letter dated December 20, 1907, addressed to the Hon. A. B. Aylesworth by the secretary of the Commissioners, filed as Exhibit 18, page 115 of this evidence. We won't read that letter over. You have read it, Mr. Lumsden, and it refers the whole question to the Department of Justice?—A. Yes.

Q. Now look at Mr. Newcombe's letter of January 6, 1908, addressed to the secretary of the Commissioners, filed as Exhibit 19. Please tell us if that is the

opinion of the Deputy Minister of Justice which you had before you?—A. That is the letter I referred to.

Q. Mr. Newcombe seems to go farther away from your view than any of the counsel practically, does he not?—A. I don't see it.

Q. He says: (Reads)

> 'Sir,—Referring to your letter of the 20th ultimo, with which you submit correspondence with regard to the classification of excavated material and the interpretation of clauses 33, 34, 35 and 36 of the general specifications for the construction of the Eastern Division of the National Transcontinental railway. I have the honour to state that upon consideration of the papers submitted I see no reason to differ from the classification stated by the chief engineer in his letter to the commissioners of the 16th ultimo, except as to the statement that "rock assembled" (the individual pieces of such assembled rock exceeding *one cubic foot* in size) . . . ——

A. Yes.

Q. 'Such as in judgment of the engineer may be the best removed by blasting,' is to be classified as solid rock excavation under clause 34. I do not understand upon what principle the chief engineer limits the size to pieces exceeding one cubic foot.'—A. Yes.

> 'The specification speaks of rock found in ledges or masses of more than *one cubic yard* which in the judgment of the engineer may be best removed by blasting. If "rock assembled" may be regarded as a mass of rock, and if it may be best removed by blasting, I do not see why under the specification it is material whether the individual pieces exceed or are less than one cubic foot in size, and if "rock assembled" is not regarded as a mass, the minimum limit of size which can be classified as solid rock exceeds one cubic yard.'

It is practically one thing or the other. The thing must relate to the mass or relate to the rock?—A. Yes.

Q. That is his view, and if you treat the assembled rock as the mass it is quite immaterial, according to his view, whether the individual pieces are one cubic foot or not?—A. Well my reason for putting in one cubic foot was to prevent any possibility of what we are talking about, coarse gravel being taken for solid rock. I mean large gravel being taken for solid rock.

Q. That is you disagree with the Deputy Minister of Justice?—A. No, no. I accepted that and struck out the——

Mr. Clarke.—Where is the letter of 16th December, are you putting that in?

Mr. Smith.—It is in as Exhibit 17 on page 156 of this evidence.

Mr. Chrysler.—That is the first form of interpretation.

By Mr. Smith:

Q. The letter (Exhibit 17) was the first intepretation which you made of the specification?—A. No. Barring the interpretation as given in my letter——

Q. To the commissioners. Quite so.—A. To the commissioners.

Q. The first one of all, I think, was in your letter of October 30? (Exhibit 13, page 151 of this evidence). That was your first written interpretation of the specifications?—A. Yes, I think so.

Q. Now in that, of course, your real opinion is expressed? It is all rock found in ledges and masses, that is solid rock?—A. Yes.

Q. That is before you had any modified view at all? That was really the simon pure, the solid rock and nothing else?—A. Yes.

Q. Then the next interpretation is that found in Exhibit 17, is it not?—A. Yes.

Q. (Reads):

Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.

I am of the opinion that rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum-pudding stone), boulders or ledge rock displaced (in pieces each exceeding one cubic yard in size), rock assembled (the individual pieces of such assembled rock exceeding one cubic foot in size), also shale rock, such as in the judgment of the engineer may be best removed by blasting.

A. Yes.

Q. Now the modification shown there is that in assembled rock? That is I think the first time you have mentioned, assembled rock, is it not?—A. Yes.

Q. You provide that the pieces shall exceed one cubic foot in size?—A. No.

Q. The specifications themselves do not mention assembled rock?—A. No.

Q. Who suggested the term?—A. Mr. Schreiber, I think.

Q. And the first mention we have of the term assembled rock is to be found in this letter of yours of December 16, 1907?—A. Yes.

Q. Why did you adopt one cubic foot? You say it was to prevent classifying cemented gravel?—A. Coarse gravel.

Q. Coarse gravel. But I think you told us a while ago that there was quite a limit between gravel and stones of a cubic foot?—A. There is.

Q. Eh?—A. There may be.

Q. Well, what were you going to do with the material less than a foot, but that would be clearly above gravel? Were you not making any provision for it at all?—A. It appears—it would appear by that I was not.

Q. Well, in short that is quite clear, that you had not taken it into consideration at all?—A. Well, I struck that out afterwards, so it didn't affect it.

Q. Up to that time you had made no provision for that class of material, that is less than a cubic foot in size of individual pieces?—A. No.

Q. But above gravel?—A. Over six inches and above a foot you may say.

Q. You may say that if you like?—A. I am not saying that, but that is what I understand you to mean.

Q. I am merely accepting as your opinion that stones of six inches are gravel. I would have thought that on consideration you would have termed gravel not as large?—A. I said then I thought it would have been pretty heavy gravel, six inches

Q. Then we have one further interpretation.

By Mr. Clarke:

Q. What do you call it when it is too large to be called gravel, assembled rock?—A. Loose rock? I don't know what it would be.

Q. I don't refer to your classification here at all, but speaking generally, if you come across a mass of stuff which is too large to be called gravel, what name do you give it?—A. If it was not cemented material at all, but simply stones up to a foot, they would be common excavation, and above that they would be loose rock.

Q. I am not referring to the classification at all. Supposing you were going out into the country and found a mass of stuff where it is too large to be called gravel. How do you term it?—A. I call it stones.

Mr. CHRYSLER.—Boulder clay is the term which is used where there are boulders and stones.

The WITNESS.—Small boulders

Mr. CLARKE.—Or assembled rock, I suppose.

Mr. LUMSDEN.

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By Mr. Smith:

Q. Well, at all events, Mr. Lumsden, after considering all these opinions, and after considering carefully your consultation with Mr. Schreiber and whatever documentary interpretation Mr. Schreiber gave you, you arrived at your final, or shall we say, finally revised, interpretation contained in the letter of January 9, 1908?—A. Yes.

Q. That was accompanied by a blue print, Exhibit 20a?—A. Yes.

Q. Let me see whether I have got the facts correctly. Up to this date, January 9, 1908, you had never indicated to the engineers any interpretation of clauses 34, 35 and 36 of the specifications?—A. No, not as—I may have talked over some portion, some individual portion, with them at one time or the other.

Q. With one or other engineers?—A. Yes. I may have talked it over with one of the engineers, but I never issued any general instructions. I remember, prior to that date.

Q. So that up to January 9, 1908, we had these young resident engineers each one classifying according to his understanding of the specification?—A. Yes, under the division engineers and the assistant district and district engineers.

Q. And those specfications, you have already told us several times, were such that even among very experienced engineers, there would be wide difference of opinion as to their interpretation?—A. There might be.

By Mr. Macdonald:

Q. No question had arisen about classification up to that time, January, 1908?—A. The previous September, I think it was, the first complaint of the Grand Trunk——

By Mr. Smith:

Q. Of course, there had been questions fairly early in 1907 with the Transcontinental Railway engineers as to classification?—A. The Transcontinental?

Q. Yes, through their engineers.

By Mr. Chrysler:

Q. The Grand Trunk Pacific?—A. Yes, that is what I say. June or July, I don't remember the dates.

By Mr. Smith:

Q. At least six months previous to this?—A. Yes, some time previous to this.

Q. Well, now, we have your final interpretation. (Reads):

> I am of the opinion that rock found in ledges or masses, as specified, must (firstly) be rock, and (secondly) it must be in ledges, conglomerate form (known as plum-pudding stone), boulders or ledge rock displaced (in piece each exceeding one cubic yard in size).

Q. Then we have rock assembled. Also 'shale rock, such as in the judgment of the engineer may be best removed by blasting.'—A. Yes.

In that you have struck out from the rock assembled 'the individual pieces of such assembled rock exceeding one cubic foot in size.'—Yes.

Q. So that according to your final interpretation we have in dealing with 'rock assembled,' rock assembled such as in the judgment of the engineer may be best removed by blasting. That is correct, is it not?—A. Yes.

Q. No limitation as to size whatever?—A. No.

Q. If it be rock?—A. If it be rock.

Q. Assembled rock of three inches?—A. I do not call three inches assembled rock, I think if it is down to three inches, it is gravel.

Q. Well, anything at all that can possibly be called assembled rock irrespective of size of pieces to be classified as solid rock upon what condition?—A. On condition stated over here, that is to say it ought to be similar to what is given in this explanatory diagram.

Q. I am coming to the diagram. First, what is the condition and sole condition that you make the classification of that as solid rock to depend?—A. On it being made of rock.

Q. Oh, not at all, Mr. Lumsden. Read it again?—A. Well, my opinion is 'rock found in ledges or masses'—it must be rock.

Q. I am talking about rock assembled?—A. But that is the general term which covers all these phrases, they must firstly be rock.

Q. Read that over together, 'Rock found in ledges or masses as specified must (firstly) be rock, and (secondly) it must be ledges, conglomerate form, &c. (known as plum-pudding stone)?—A. Yes.

Q. That takes us down to plum-pudding stone, then 'boulders or ledge rock displaced (in pieces, each exceeding one cubic yard in size),' that is another case?—A. Yes.

Q. Then you have 'rock assembled, also shale rock'?—A. Yes.

Q. Now then, what is the sole condition you yourself stipulate for classifying 'solid rock'? Read on! What is it?—A. 'Rock assembled, also shale rock, such as in the judgment of the engineer may be best removed by blasting.'

Q. Don't you yourself make the sole condition there the blasting?—A. That it has got to be removed by blasting.

Q. If in the judgment of the engineer it may best be removed by blasting, and if it be rock assembled irrespective of size, if in the judgment of the engineer it may be best removed by blasting, it is classified as solid rock, isn't that right?—A. Yes.

Q. You yourself put in here the sole test that in the opinion of the engineer it is best removed by blasting?—A. But I explained that, I attached that diagram.

Q. The words that you have used in that revised interpretation seem to be reasonably plain, Mr. Lumsden; why did that require any elucidation by diagram?—A. Simply to show that it was intended that it must be a mass of rock. The reason I struck out—another reason for striking out the dimensions was that if it stated a number of small stones and a number of big ones it might be questionable.

Q. Who drew this diagram?—A. I think it was Mr. Schreiber drew the diagram as a matter of fact. I think he made the original diagram.

By Mr. Wilson:

Q. I see it is signed by you, Mr. Lumsden?—A. Yes, he made the original diagram, but I made it over again.

Q. Was it under your instructions that he drew that?—A. No, it was not under my instructions that he drew it; no, no. I actually drew, or rather had the one drawn that you have here, but it was taken off one of Mr. Schreiber's drawings.

By Mr. Smith:

Q. Then I understand that this blue print, Exhibit 20a, which is intended to illustrate your final revised interpretation was actually prepared by Mr. Collingwood Schreiber?—A. Not this actual one, but it was one similar to this.

Q. But you copied it or blue-printed it, but he made the drawing for it?—A. I don't know whether it was actually copied or not. I think it may not be an actual copy of the original, but it is very near it.

By Mr. Macdonald:

Q. Did he prepare it for this particular purpose, or did he do it for some other purpose?—A. I think he prepared it for this purpose; I don't know.

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By Mr. Wilson:

Q. You think that was to illustrate your definition of 19th January, 1908?—A. Oh, this was made before that. This was made before the first definition was made.

By Mr. Smith:

Q. Mr. Collingwood Schreiber, who furnished you with the written statement of your final interpretation, and who made this drawing to illustrate your final interpretation, was the gentleman chosen as the third arbitrator between the commissioners and the Grand Trunk Pacific?—A. Yes.

Q. The same gentleman?—A. Yes.

Q. When was this drawing made, can you say?—A. I think it was in December: I am not sure.

Mr. Wilson.—There is a date on it.

Mr. Moss.—That is when it was issued.

By Mr. Smith:

Q. The first date is December 17, which is crossed out, and then it is January 10?—A. I think it was made before.

Q. So when Mr. Collingwood Schreiber began his duties as the umpire to decide all matters between the two arbitrators he was not a stranger to the questions at all, was he?—A. No, not a stranger to the specification, at any rate.

Q. And he had not only expressed an opinion on the principal question involved, but he made a statement in writing of the interpretation and had actually drawn the the drawing illustrating the views—he had done all that, and yet he was the umpire or independent third arbitrator to arbitrate all these questions of classification; that is right, is it?—A. Yes.

Q. Are you able to say, Mr. Lumsden, whether the revised interpretation, which is Exhibit 20, page 117 of this evidence, was drawn by yourself or by Mr. Schreiber?—A. Oh, this was drawn by myself.

Q. There is no portion of that that is his draughtsmanship?—A. I don't think so; I have no recollection of it. I showed it to him, though, but I think I draughted it; I am almost satisfied I draughted it all myself and then I showed it to him.

Q. You told the Commissioners in your letter that you had consulted with Mr. Schreiber?—A. It was on the Commissioners' suggestion that I consulted Mr. Schreiber.

Q. Did you ever tell them that Mr. Schreiber had prepared the blue print?—A. I think possibly I did; I can't be positive.

Q. Don't say 'I think possibly'; if you don't know, say you don't know?—A. Well, I don't know; I am under the impression I told them.

Q. Do you know anything about the quantity of assembled rock on District F, and on District B?—A. No, I don't know from memory.

Q. My instructions are that on District F the actual amount of assembled rock is very small indeed?—A. Well, I don't know. I don't know the total quantities at all.

Q. Do you remember enough about it to be able to tell us whether it was an important item or not?—A. Oh, I should think there was quite an amount in it.

Q. What amount of actual rock classified or assembled rock in District F?—A. In District F there was only a small percentage of it.

Q. Very small?—A. I couldn't say what percentage it was. I never attempted to figure it up.

Q. I am told that the total amount of assembled rock in District F is only 7 per cent of the total solid rock classification?—A. That may be; I would not like to say, because it had a very large proportion of solid rock in it, I know.

Q. In District B there would be probably somewhere between 45 and 50 per cent of solid rock classification that would be assembled rock?—A. I don't know the proportion; I can't say.

Q. Have you been over the portion of the road built by the Grand Trunk Pacific west of Winnipeg?—A. West of Winnipeg, no.

Q. You have not been over it at all?—A. No, not been over a foot of it. I have been over portions of the country, but not over the railroad.

Q. You know nothing about the classification?—A. I know nothing of the classification west of Winnipeg. The only portion built by the Grand Trunk Pacific was a piece built at the Lake Superior Junction, of 11 odd miles. That is the only piece of Grand Trunk Pacific construction that I have been over. That is between Fort William and Winnipeg.

Q. What about the classification on that 11 odd miles? How does it compare with the classification on the rest of the road?—A. You mean how does it compare with the classification on the Transcontinental?

Q. Yes.—A. I think it is very much the same. In my opinion fully as bad.

Q. The distance is about 11 miles?—A. 11⅓ or something.

Q. Tell us just where that 11 miles comes?—A. That 11½ miles runs from the easterly end of the McArthur contract easterly for 11½ miles, running towards Port Arthur. That is, it was originally built to run towards Port Arthur or Fort William, but it was afterwards taken over as part of the main line, so that it extends from about 247 miles east of Winnipeg farther easterly for 11½ miles.

By Mr. Clarke:

Q. Not part of McArthur's contract?—A. No, it joined McArthur's contract.

Q. Still in F?—A. Yes. It connected McArthur's contract.

By Mr. Smith:

Q. And how did the Grand Trunk Pacific come to be the contractors for that?—A. They were building the branch from Fort William to this junction, and after they had let the contracts and done the work it was found that by only lengthening the through line about one-third of a mile, or about that amount, we could utilize the portion of the branch they had built for the main line, and save operating about 11 miles of road for all time to come.

Mr. CHRYSLER.—The two sides of the triangle were only a little longer than the other. That is what it is.

By Mr. Smith:

Q. Did you actually go over this 11⅓ miles yourself?—A. I went over it, but I went over it on the train. I did not spend much time on it. We were going probably only two or three miles an hour, and we had the quantities in the different cuttings we went through. I had walked over that previously. I had walked over a portion of that contract several months previously.

Q. The commissioners had requested you to make a special report to them on that, didn't they?—A. I don't recollect it. I may have made a report on it. I know that I thought their classification there was very bad; I remember that.

Q. Was it made on the same principle?—A. I can tell you nothing about on what principle it was made. I am not sure that they made it on the same specification, but I assume they did.

Q. And assembled rock was classified?—A. I can't tell you anything about that; I don't know that they had assembled rock.

Q. All you know is that you considered it fully as bad as anything?—A. At the time I considered it as bad as anything on the other line.

By Mr. Macdonald:

Q. Classified along the same line?—A. Yes.

The committee adjourned at 12.40 a.m.

APPENDIX No. 3

THURSDAY, March 17, 1910.

The Committee met at 3.30 p.m., Mr. Geoffrion the chairman presiding.

HUGH D. LUMSDEN'S examination continued.

By Mr. Smith:

Q. We were discussing the blue print attached to your interpretation of January 1908 (Exhibit 20A); have you that before you?—A. I have it.

Q. This blue print deals entirely with solid rock excavation?—A. Yes.

Q. You are not intending to show anything on it with relation to loose rock?—A. No.

Q. In the first figure in the diagram you represent rock in ledges?—A. Yes.

Q. Of course there has never been any difference of opinion in regard to that?—A. No.

Q. Then in the second figure in the diagram you refer to rock in boulders over one cubic yard?—A. Yes.

Q. I don't understand there has been any difference of opinion in regard to that?—A. No regarding boulders, no.

Q. Then in the third figure of this blue print you represent conglomerate rock or plum pudding stone?—A. Yes.

Q. Do you know whether that formation was met with on this line at all?—A. I think not; I have not seen any of it.

Q. Your object in putting it in, I suppose, was to make this exhaustive and comprehensive, so as to provide for any possible material that could be found?—A. I could not put in all the rocks that might be found, but in regard to the rock being in its appearance so much like gravel, I did put that in.

Q. But I take it from what you say now that you did not put that in to meet with any conditions which you knew to exist?—A. No, I did not know that they existed at that time.

Q. And as far as your knowledge goes, if it was met with it was very exceptional?—A. I don't know; I have not seen any.

Q. You have not seen any?—A. I have seen it, but not on this work.

Q. Then the fourth figure on the blue print represents detached ledge rock in mass of over one cubic yard; I suppose that is also another thing upon which there was no difference of opinion?—A. Oh, I don't suppose, except that word 'masses,' that is where the difference of opinion is.

Q. But if it were detached ledge rock, I don't suppose there was ever any difference between you in regard to it?—A. No, I don't imagine that there would be.

Q. You never heard of any difference of opinion in regard to that?—A. No, not in detached ledge rock.

Q. Then we might discuss figure 6, representing shale rock which in the judgment of the engineer can be best removed by blasting?—A. Yes.

Q. Shale rock found in the form represented in your blue print would not be subject, I suppose, to much difference between you either?—A. No, there might be a difference; I don't know that there is any difference, but there might be in shale rock, for some shale rock you can plough.

Q. But you don't recall any difference that ever did arise with respect to shale rock?—A. No.

Q. So that we may, by this process of elimination, get down to figure 5 on this blue print, which is in reality the crux of the whole situation, isn't it?—A. Yes, that is the one that I added in.

Q. My learned friend Mr. Moss suggests that I might ask you, with respect to the shale rock, if that could be removed by pick and shovel, removed without blasting—how you would classify it; that is the material shown in figure 6 of your blue print?—A. Shale rock?

Q. You said a moment ago that you knew of some shale rock that could be ploughed?—A. Yes.

Q. Suppose it could be ploughed or could be removed by a pick and shovel without blasting?—A. If it could be removed better by blasting I think I would still call it rock.

By Mr. Moss:

Q. If it could be removed conveniently?—A. If it could be best removed by blasting I suppose I would have to call it rock.

Q. If it could be best removed by ploughing what would you call it?—A. If it could be best removed by ploughing I think I would call it rock.

By Mr. Smith:

Q. Common excavation, or loose rock, or which?—A. That might be a question. I have never thought of it in that way, taking it as common excavation.

By Mr. Moss:

Q. Have you ever found it where it could be ploughed more conveniently than by blasting?—A. If it is very shallow it would, suppose there was only six inches or a foot of it to take off at the bottom of the cut.

By Mr. Smith:

Q. At all events you see, Mr. Lumsden, that even with this explicit interpretation very difficult questions might arise in respect if it?—A. Oh yes.

Q. And I gather from your answers now that you cannot make the test whether it could be best removed by blasting?—A. That is what it says here—if best removed by blasting.

Q. That is your interpretation?—A. Yes.

Q. Now, with respect to the first four figures, you have a note at the bottom of this blue print, 'is a mere matter of measurement'?—A. Yes; that is in the first one

Q. Nos. 1, 2, 3 and 4 are all the same?—A. Yes; one is 'by the engineer' and the other is 'by rock measurers.'

Q. Whether it is by engineers or by rock measurers, it is a mere matter of measurement?—A. Yes.

Q. I see you do not say anything with respect to Nos. 5 and 6 being a mere matter of measurement; you say 'to form a judgment as to whether or not it is best removed by blasting, the Chief Engineer must view the work in progress or leave it to be decided by the engineer in charge, whose duty it is to frequently visit the work during its operation, and be governed thereby and act accordingly'?—A. Yes.

Q. You don't put anything in there about that being a mere matter of measurement?—A. I see I have not.

Q. Had you any object in leaving that out?—A. Not that I remember of.

Q. Did it occur to you that it was more difficult to measure that than to measure the other classes that you have described?—A. I can't say whether I thought so at the time or not; I don't recollect taking that into consideration—any difficulty about measuring.

Q. Your blue print does not purport to be drawn to scale at all?—A. No.

Q. So that the figure itself does not give any indication of the size of the material represented, further than when you speak of 'one cubic yard' here and there?—A.

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Yes; but in figure 4, in those places representing more than a cubic yard, though they are not actually to a scale, still the ones below it are very much more than one cubic foot. There is no scale to it.

Q. But you don't say how much they are over a cubic yard?—A. No; but the more over a cubic yard, the bigger it would make the other one.

Q. While we are speaking of this, I suppose we may take it that this blue print is simply a theoretical drawing?—A. That is all.

Q. It does not purport to represent any actual conditions existing?—A. No.

Q. Could you say whether you would be likely to find material massed as closely as that?—A. Oh, yes, you could find material, and do find material, massed as closely as that.

Q. But you would not say that the average would be massed as closely as that? —A. That is, you frequently find material which is just the same as if it had been taken and pitched in—into a trench we will say, or into a cutting—and just filled up with it, all different sized stones mixed together.

Q. But when you are speaking now of the average excavation of this material along the line of railway, I suppose you would not expect to find it all of material of that class?—A. Not in that shape, certainly.

Q. In that shape, or as closely packed as that?—A. I would expect it to be in close. Some of it might be opener than others, but I fancy the pieces should be approximately touching.

Q. At all events, this blue print of yours was submitted to the engineer for the Grand Trunk Pacific?—A. Yes.

Q. And in his letter of February 20, 1908, Mr. Woods writes:—

EXHIBIT No. 54.

February 20, 1908.

Mr. Hugh D. Lumsden,
Chief Engineer, Eastern Division,
National Transcontinental Railway,
Ottawa, Ont.

Dear Sir,—I beg to acknowledge receipt of your favour of the 17th instant, file 7787, giving your interpretation of classes 34, 35 and 36 of our specifications, with blue prints and explanation of same, also copies of your instructions to your engineers.

We are quite satisfied with your interpretation of the specifications and with your instructions, which are explicit. I do not know the date of those instructions, or when they are supposed to have become effective, but, from reports from my assistants at Winnipeg and Quebec, there does not seem to have been any change in classification of work previously reported, the percentage of classified material being steadily increased.

We are satisfied that on some parts of the line the work previously estimated was not classified according to your recent instructions, being over-estimated in both loose and solid rock. The attention of your district engineers has been called to this fact, but apparently without effect. If your instructions were effective when the January estimates were made, we certainly will have to object to the classification as rendered on certain parts of the work.

H. A. WOODS,
Assistant Chief Engineer.

There was only one blue print?—A. I may have sent him two copies of the blue print, I am not sure.

Q. At all events, he had nothing before him further than what you submitted to the engineers?—A. No.

Q. Mr. Woods says: 'Also copy of your instructions to your engineers. We are

quite satisfied with your interpretation of the specifications and with your instructions, which are explicit.' Did Mr. Woods ever withdraw that approval of your interpretation?—A. Never to my knowledge.

Q. Always adhered to it as being satisfactory; well, you sent that to your district engineers—that interpretation with blue print?—A. Yes.

Q. Did you write the same letter to all the engineers, Mr. Lumsden?—A. I can't say from memory, but I think I did.

Q. Probably you did?—A. I think I did.

Q. To the district engineers?—A. District engineers, yes.

Q. Will you look at this typewritten copy of letter dated January 14, 1908, addressed by you to Mr. Doucet:—

EXHIBIT No. 55.

File 7787.

A. E. DOUCET, Esq., OTTAWA, January 14, 1908.

District Engineer,
Quebec.

DEAR SIR,—Herewith please find copy of my interpretation of clauses 34, 35 and 36 of our general specifications, together with a blue print diagram in explanation of same. These, after having been submitted to the Justice Department, have been approved by the Commissioners.

You will please at once go over these carefully and say whether the classification in your district conforms to such interpretation. If it does not, steps must at once be taken by you to have your division and resident engineers, who are personally acquainted with the work, take up the matter, and, as far as now practicable, have an estimate prepared showing the difference such classification would make with that which has heretofore been used by you. In future all classification must be in conformity with my interpretation. Measurements must be made and full notes kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by the assistant, of rock or loose rock in boulders. In short, actual measurements must be made of all classified material returned, and not by percentages.

I propose having a meeting here of the district engineers now in charge of construction on Thursday, the 23rd instant, and should like you to arrange to be present.

Yours truly,

HUGH D. LUMSDEN.

You remember writing that letter?—A. Yes; I think I wrote another letter exactly the same, with the exception that there was something more at the end of it. I think there is a copy of that here.

Q. I think so; I will come to that in a moment. This is transmitting your interpretation to Mr. Doucet as district engineer. You say, 'these, after having been submitted to the Justice Department, have been approved by the Commissioners'?—A. Yes.

Q. That is, your interpretation of the general specifications. 'You will please at once go over these carefully and say whether the classification in your district conforms to such interpretation. If it does not, steps must at once be taken by you to have your division and resident engineers, who are practically acquainted with the work, take up the matter, and, as far as now practicable, have an estimate prepared showing the difference such classification would make with that which has been heretofore used by you.' You must at that time have had some knowledge of the classification on District 'B'?—A. How do you mean, some knowledge? I had been there in the previous October.

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Q. And the previous July also?—A. And the July previous. I did not see much of the classification in July that I did in October.

Q. So that you had some knowledge of whether the classification that had been followed upon District 'B' had in fact conformed to this new interpretation?—A. No, not the new interpretation; that No. 5 had been put in since I was up there—that assembled rock.

Q. But what I mean is that you, having been over the ground, and as Chief Engineer naturally having a knowledge of the work under your charge, would know pretty well whether they had been following that standard or not, wouldn't you?—A. Well, I knew from Mr. Doucet's letter that they had not been following that standard in October—not that standard, but the standard that I had laid down in October.

Q. That you subsequently laid down?—A. No, what I first laid down; I knew he had not been following that.

Q. But you didn't know whether they had been following your new interpretation?—A. I didn't know what difference the addition of that assembled rock would make to it.

Q. You ask him first to make an examination for the purpose of determining whether, as a matter of fact, the classification did conform with such interpretation?—A. Yes.

Q. And had you no knowledge of whether it did or did not?—A. Well, I hadn't any accurate knowledge of it. I had seen a bit of it, and a piece of the work——

Q. As a matter of fact, Mr. Lumsden, after all is said and done, and giving all due weight and importance to the opinions that you had perused, and so on, was not this new interpretation of yours made more or less to meet the views that had existed among your district engineers?—A. As far as that No. 5, that assembled rock, is concerned, that was an addition to what I had previously made.

Q. And it was made to bring your interpretation into harmony with what your district engineers had been contending for?—A. Well, I can't say it was altogether to bring it into harmony, but it was covering the point which I thought there might be a question about.

Q. And which your district engineers, Mr. Doucet and others, had raised in the first place with you?—A. Yes.

Q. Then you continued in this letter, 'in future all classification must be in conformity to my interpretation. Measurements must be made and full notes kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant of rock or loose rock in boulders. In short, actual measurements must be made of all classified material returned, and not by percentages'?—A. Yes.

Q. Were you aware that a certain amount of work had been classified by percentages previous to that?—A. Yes; I had been told so.

Q. I suppose you knew, as a matter of fact, that it had been?—A. Yes, I know from the statements made that it had been.

Q. I suppose you also knew that that is always done in all contracts—that there is a certain amount done by percentage?—A. Well, not always.

Q. I don't say it has always been done, Mr. Lumsden?—A. I know that it has been done.

Q. On every contract you know, that you have had to do with, it is done in certain cases—estimates rather than——?—A. Yes, in most contracts it has been.

Q. It is a recognized way of arriving at classification?—A. Well, I would hardly say it is recognized. I know that it has been done, and I know it has been done on work I have been on.

Q. Apart from this work altogether?—A. Apart from this work.

Q. Now, as a result of this letter of January 14 (Exhibit 55) you remember what the district engineers did—what action they took?—A. I can't say that I remember it.

I remember receiving a letter from Mr. Doucet stating that the work heretofore done—or words to that effect—had been in accordance with that.

Mr. Moss.—That is later.

By Mr. Smith:

Q. Yes, that is rather later; but in regard to the question of measurements you remember that your district engineers did come to Ottawa for the purpose of meeting you?—A. Yes, we had a meeting in Ottawa.

Q. That was about the 29th January, 1908?—A. I don't recollect the date.

Q. At that meeting do you remember that Mr. Dunn, the district engineer of District A., Mr. Doucet, district engineer of District B., Mr. Molesworth, district engineer of C., and Mr. Poulin, the district engineer of District F., were all present?—A. I can't say I remember. I know there was a meeting; I don't know whether they were all present or not.

Q. And I think the Commissioners themselves were present also; do you recall that fact?—A. I don't recall the fact. I know there was a meeting, and I remember the meeting; I don't remember who was present.

Q. And those four districts were the only districts where there was any work proceeding on at that time—A. B. C. and F.?—A. There was no work going on in C. at that time, I don't think; it must be D.

Q. Mr. Doucet's recollection agrees with yours, that there was no work going on in C. at that time, but the district engineer Mr. Molesworth was present?—A. Yes.

Q. So there was work going on only on districts A. B. and F. at that time?—A. I think so.

Q. Do you recall the nature of the discussion which you had then with those district engineers?—A. I can't say I do.

Q. Do you remember their representing to you that your letter of January 14 requiring measurements in all cases was really requiring an impossibility from the engineers resident?—A. I know from a subsequent letter I wrote that there was some suggestion, but I don't recollect the conversation about it, but I know there was some such thing.

Q. Perhaps you may be able to remember that that was the principal reason for the meeting, and that was principally discussed between you?—A. I don't know that that was the principal discussion at the meeting, but I assume that it must have been discussed, from the letter I wrote immediately afterwards.

Q. Are you able to remember there was any discussion at that meeting between your district engineers and yourself as to figure No. 5 on your blue print attached to your interpretation?—A. No, I don't remember it.

Q. The engineers agreed in general with your interpretation, didn't they?—A I don't remember but very little about that meeting, really. My memory—I don't remember any facts connected with the meeting at the present moment. What was the date of it?

Q. January 29, 1908?—A. What was the date of my interpretation?

Q. 14th January, the letter sending it to the engineers was written on the 14th?—A. I can't recollect any details of the meeting at all.

Q. You remember that as a result of that meeting you wrote certain letters both dated January 30, 1908; you might just look at those two letters which have already been filed as Exhibits 21 and 22 (pp. 161, 163) and say whether you remember that they were written as a result of the conference you had on the 29th January with your engineers?—A. Well, I can't say that I remember that they were written with that, but I daresay they were, from the fact they were written on that date.

Q. And that they deal with the question?—A. It is practically the same letter as the one you showed me the typewritten copy of, I think.

Mr. CHRYSLER.—Word for word, except that last sentence.

Mr. LUMSDEN.

APPENDIX No. 3

By Mr. Moss:

Q. Have you any doubt that they were?—A. I mean to say when you called my attention to it just now I didn't know what the reason of that was, but I daresay it was.

Q. Have you any doubt that it was?—A. I can't say that I have not any doubt but I am only taking what they say about it.

By Mr. Smith:

Q. The first of these letters, Exhibit 22 (p. 163), says: In regard to my letter to you of the 14th inst. I beg to substitute the accompanying letter, as I have taken into consideration that some instances may be met with where actual measurements are impracticable, but it must be understood that actual measurements (a record of which are kept, either by cross sections or by measurements) must be made as a rule of all work, and if at any time you find it necessary to put on an extra man for this purpose you can do so;'

That of course admits that there are such cases where it is impracticable to make measurements?—A. Yes.

Q. Then you say that the rule must be 'actual measurements must be made as a rule of all work,' what do you mean by saying 'a record of which are kept, either by cross-sections or by measurementsé'—A. The cross-sections mean that they be shown on the cross-section sheets, which are measurements actually, but the others are measurements of boulders or detached rock which do not appear on the cross-section sheet but must appear in notes.

Q. Then in the letter which you inclosed you have the same letter which I read to you of date of January 14, with the exception that you change the last clause of the letter, or rather you add to the last clause of the letter, 'except in cases where measurements are impracticable in the judgment of the engineer in charge.' A. Yes.

Q. So that in this letter of instructions you further modify the views you have expressed and you make the rule now that measurements are to be the rule, except in cases where in the judgment of the resident engineer or the engineer in charge, whoever he is?—A. Yes.

Q. Measurements are impracticable?—A. Yes.

By Mr. Moss:

Q. 'Engineer in charge' does mean resident engineer, doesn't it?—A. I think it would be considered so, but still I think it would be checked by the divisional engineer whether the work could be measured or not.

By Mr. Smith:

Q. It was the resident engineer in each residency where he is resident, subject to to the supervision of the divisional engineer; in this letter you make it depend upon his judgment whether—A. Whether it is an exceptional case or not.

Q. Whether the measurement can be made or not?—A. Yes, whether it is an exceptional case or not.

Q. You do not say anything about 'exceptional case,' you say whether it is practicable or not?—A. I beg pardon.

Q. He is to determine whether it is practicable or not?—A. (Reads): 'In future all classification must be in conformity with my classification. Measurements must be made and full notes kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant, of rock or loose rock in boulders. In short, actual measurements shall be made of all classified material returned, and not by percentages, except in cases——'

Q. 'Except in cases where measurements are impracticable in the judgment of the engineer in charge?'—A. Yes.

Q. Now let us begin at the beginning, Mr. Lumsden, with regard to measurements The first measurements are made by the engineer in charge of work of this kind?—A. When you are speaking of measurements, what do you mean by measurements?

Q. Well, your cross-sections give dimensions, &c.—A. The line is chained out, that is the first measurement as a rule.

Q. That is longitudinally, it is chained out?—A. Yes.

Q. They chain it out?—A. Yes.

Q. Then I suppose they take cross-sections?—A. Yes.

Q. That is before any material is removed at all?—A. They should, yes.

Q. And these cross-sections they would carry down, I think you told us, to one foot below grade?—A. No, not in the first instance.

Q. Where would they carry it down to?—A. They could not carry it down, there was no grading done.

Q. You mean to say you would not do your grading until after the removal of the material?—A. No, but you would cross-section before you removed any material.

Q. How far would that cross-section extend?—A. Far enough out to cover all the work that would be done.

Q. How deep, to what level?—A. They would have no depth at all, but on the surface of the ground on each side of the centre of the line; they get a surface cross-section in the first instance, then they lay out the cutting, then they put in the pegs to whatever slope and grade the material warrants.

Q. Well then, as the material is taken out then you have your cross-section carried down?—A. Yes.

Q. Now that cross-section, I suppose, would give you the actual contents of a cut, wouldn't it, whatever it is?—A. Yes.

Q. Well now, is it to your knowledge that over every portion of this work these cross-sections were taken and carefully preserved?—A. Oh, they ought to be.

Q. Well, don't you know they were, as a matter of fact?—A. I believe they were; that is, I can't say that they are all completed; I don't believe—I am sure they are not.

Q. You mean the figuring of them out?—A. You are referring to these particular pieces now, are you?

Q. Yes; I want the whole work from beginning to end—the whole work from the beginning?—A. I am satisfied it cannot all be done, because the work is not done.

Q. Well, where the work is done?—A. Some of them may be in progress still.

Q. All the work under criticism?—A. Oh, that is another point.

Q. Let us get down to that?—A. That——

Q. Take all the work under criticism, isn't it a fact that cross-sections have been taken?

Mr. MACDONALD.—That is all we have to deal with.

By Mr. Smith:

Q. That cross-sections have been taken and are preserved, and are to-day on file, of the work concerning which any objection has been raised at all?—A. I presume they were.

Q. So that whenever there is any talk about measurements being impracticable, or estimating by percentages, it does not mean, of course, estimating the total contents or anything of that sort?—A. No.

Q. They are all fixed by cross-sections, aren't they?—A. The total contents are.

Q. But where varying materials are found in a cut, and where some of it is common excavation, and some of it is loose rock, and some of it is what you have subsequently called assembled rock, and some of it is ledge rock, it is only in determining the proportion that percentages are ever used at all?—A. Might I say there should be a line of demarcation, as a rule, between those different classifications on the cross-section.

Q. Where it is possible to have that line of demarcation, are you in a position to say it is not being done?—A. I cannot.

Q. Do you know that they have not done it?—A. I cannot say that.

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Q. No. Now, let us come to the cases where the practical measurement can be made. First, with regard to the question of boulders, you take the measurement of the boulder by the cubic yard?—A. Yes.

Q. That will be measured by a rock measurer, won't it?—A. Yes, or sometimes by an engineer.

Q. A rock measurer, I suppose, does not know much about trigonometry?—A. He may or he may not; he may be a young assistant who does know something about trigonometry.

Q. When you talk about measuring the cubic contents of a rock, how will they do that?—A. They generally do it with the tape line.

Q. With the tape line; they measure the length and the circumference?—A. The best way is to measure the circumference, when they can, in two different directions.

Q. But supposing it is in position?—A. Then they cannot measure it until the earth is taken away from around it probably.

Q. And if the earth and the boulder is knocked sky high by the blast it will be pretty difficult to get any kind of measurement?—A. It might be after it is blown.

Q. As a matter of fact, you know it is quite impossible?—A. If it is blown to pieces; but, as a rule, where boulders are met with, the softer material is removed before the boulder is.

Q. But take your case where the softer material is removed?—A. Yes.

Q. And they throw the tape measure around it?—A. Yes.

Q. Isn't it a matter of estimate in the end; it is not an accurate measurement, simply a guess?—A. It depends upon what you mean by accurate measurement.

Q. Take boulders of irregular shape?—A. You do not get the actual contents.

Q. You do not get the cubic contents actually; you get an estimate, approximate?—A. Approximately, you get the cubic contents of them.

Q. You get an approximate estimate in the end; that is the best you can get, isn't it?—A. Yes.

Q. Would the estimate of a practised engineer, take yourself, you go into one of those cuts and you see a boulder lying there?—A. Yes.

Q. And you look at it; would you not be able to estimate its cubic contents more accurately than the rock measurer who throws his tape line around it?—A. I might or I might not, it depends upon what experience the rock measurer would have.

Q. Couldn't you see at a glance of the eye what the circumference and the length were?—A. I could make a guess at it, but if he was experienced and had the measurements he would have a better chance of being right than I would.

Q. But his would be an estimate in the end?—A. Yes, but he had taken measurements and I had not.

Q. You tell me that in estimating a boulder of irregular shape, you, a practised engineer, would not be able to better tell or estimate its cubic contents than a rock measurer would if he took a dozen measurements with the tape line?—A. It would depend upon the rock measurer's experience.

Q. Let me ask you whether you could not, and whether any engineer of experience would not, be able to give a pretty accurate estimate of the cubic contents of a rock of irregular shape?—A. I could make possibly a good guess at it, but I would sooner try to measure it.

Q. If you could?—A. If I could.

Q. As a matter of fact, you would be pretty near to its cubic contents?—A. I would think I was anyway.

Q. Because you could never figure it out accurately anyway, exactly?—A. It would be very hard to figure out the exact measurement.

Q. What I want to come to is this, would it be reasonably practicable at all to get the exact measurement on the ground when you are building a railway up here in the north?—A. Not if we go into the fraction of a foot or the fraction of an inch, you cannot make it exact.

Q. But is it not quite possible for an engineer, taking one with an another, to make an estimate of the size without measuring?—A. Oh, he could make an estimate.

Q. Without much chance of an error, or without any serious error?—A. It depends upon his experience entirely.

Q. And there would be a very considerable margin of error with any measurements which the average rock measurer would make?—A. I cannot say what the average rock measurer might do, but if he is experienced in the work he ought to get pretty close to it.

By the Chairman:

Q. How would you proceed yourself in that case?—A. I would want to get a man there to measure as close as he could as the work progresses.

By Mr. Smith:

Q. You tell us you would prefer measurement?—A. Yes.

Q. Do you know the practice followed by the engineers in regard to all free boulders?—A. I presume they ought to have measured them.

Q. I am instructed that they were measured?—A. If they were measured they have the record of it, and that is what we wanted.

Q. But now when you come to this assembled rock, Mr. Lumsden, I want to ask you a few questions about the measurement of that?—A. Yes.

Q. I suppose that you do not get in that country very regular formation, do you; you get a great deal of irregular formation?—A. Sometimes it is very irregular.

Q. It is very irregular. Supposing you had a cut to make where the surface is very irregular to start with, how would you propose to measure the assembled rock that might be found within the lines of the cross-section? How would you go about it; what would be your method of doing that?—A. When you strike these boulders, this mass of boulders in the work, you would note where they were and endeavour to measure them; if there were only a few yards of them in a place you would have to measure them as you would boulders, only in a mass.

Q. How many feet of material can be removed by one blast?—A. That depends upon the size of the blast.

Q. In practice, in ordinary work?—A. That depends entirely on the size of the blast.

Q. How much do they use in a blast in ordinary work, that is what I want to get at; you know the size of these things?—A. I do not know what sized blast they used on this work.

By Mr. Macdonald:

Q. What, in your experience, has been the size of the blast?—A. It depends entirely as to the size of the blast used upon the quality of the material.

By Mr. Smith:

Q. In your experience as an engineer, knowing they are not going to blow up a whole mountain by dynamite?—A. There is one case on this work where they removed something over 40,000 cubic yards in one blast; they are said to have done so.

Q. Where was this?—A. Up in Canyon lake; it was not on the line; they blew it into the line to fill up a lake with it.

Q. What I want to get at is not the extraordinary things; we want to deal with the ordinary and the usual, and I will go further and say the proper methods of using blasting. Take the ordinary methods of using blasts, and take, for instance, a light blast, then a medium blast and then a heavy blast?—A. Yes.

Q. Tell us what material would usually be removed by such blasts?—A. It depends upon what the material was entirely; in some cases you might strike material, put in a heavy blast and it will remove very little of it, and in others it would all blow out.

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Q. I suppose it is not an unusual thing to move a thousand feet with a blast?—A. A thousand feet?

Q. A thousand yards with a blast?—A. Well, it will take quite a good blast; it depends upon the material, though, and the amount of explosive used.

Q. How do they put their blasts in; tell us a little about it, going into the elementary features of it for the benefit of counsel, if not of the committee?—A. They put in a blast, depending on the material, so far in from the working surface of it.

Q. What do they mean by a 'T'; I have heard some one talking about a 'T'?—A. I cannot tell you what they mean by a 'T.'

Q. What would you mean by it?—A. I do not know what they mean by a 'T.'

Q. I would suppose that it meant that they would bore in and spread it out in the shape of a 'T'?—A. I do not know it by that term.

Q. Do you know that formation of a blast?—A. I know the formation of a blast by which they burrow in and when they get in then they widen it out.

Q. That is the point; what do they call that?—A. Coyoting, I have heard it called.

Q. That is the same; I think coyoting is the same as the 'T'?—A. I do not know that I have heard of it under the name of 'T,' but I have heard it under the name of coyoting.

Q. I suppose they call it the 'T' because it is something in the shape of a T it goes in and widens out.—A. Yes.

Q. Now take such a blast and it is going to move a large mass of material?—A. It is if the material is of a kind that will move; sometimes they get disappointed and do not move but very little.

Q. I know that, and sometimes it moves more than they expect. At all events they have to move a certain amount of material, and it has to be removed if it takes a dozen blasts to move it?—A. Yes.

Q. Well now, supposing they would move 500 to 1,000 yards?—A. Yes.

Q. And that is composed of different material?—A. Yes.

Q. Or of different formations?—A. Yes.

Q. You have some common excavation, what ought to rank as common excavation in that thousand yards, and you have a lot of assembled rock in it, and perhaps it will take off a piece of ledge rock as well, will you tell me how it will be possible to measure exactly what was displaced of each class by that blast?—A. You could not measure exactly what was displaced, but all that stone that is blasted has to be handled over again.

Q. Where does it go to?—A. Into an embankment probably.

Q. But some of it goes up into the air never to be seen again, doesn't it?—A. It should not move very far.

Q. But after the blast I do not suppose it will be in exactly the same formation as before the blast?—A. No.

Mr. Moss.—Assembled rock will break up in disorder it would not be the same.

By Mr. Smith:

Q. Yes, assembled rock will not be assembled after the blast?—A. No.

Q. What I want to get at is, is there any possible way of determining or estimating what proportion was solid rock, and what proportion assembled rock, except by the examination which has been made of the ground before it is blown up, and of the two ragged sides and the bottom and the face that remains, that is the way isn't it?—A. There is very little except this that all this material that has been blown up,whatever it is, is there, as far as ledge rock is concerned the probability is that you can get some idea of what has been effected by the blast in the face.

Q. Perhaps we might start from there. Now if you find that the two sides show ledge rock up so far and the bottom was ledge rock, and the lines of the ledge rock corresponded with the cross-section or a considerable portion of it, then you could form an idea by measuring, couldn't you?—A. Yes.

Q. But what I want to get at is this, if you say to your engineers, 'You have got to measure—'—A. Yes.

Q. 'All this assembled rock'?—A. Yes.

Q. I want you to tell me if it would be physically possible to do it?—A. You could not if you measure every hundred feet in the face, that is if it is only in small quantities, if it is in big masses, in layers as it frequently would be, you could measure it in the cross-section the same as the ledge rock does.

Q. Is it not a fact that not only would it not be exceptional where you could not measure it, but isn't it the exception where you could measure it?—A. I do not see why it should be exceptional where you could measure it.

Q. Have you had any experience in doing it?—A. I never tried to measure assembled rock I never had such a classification.

By Mr. Macdonald:

Q. That is in your actual experience, in your own work?—A. I never measured assembled rock.

By Mr. Smith:

Q. What did you say?—A. I never measured assembled rock in my own work, I never had such a term.

Q. Your ideas are largely influenced, are they not, Mr. Lumsden, by your previous experience, there, I think, solid rock in ledge was dealt with?—A. There were other things than solid rock in ledge dealt with.

Q. I mean for solid rock excavation, your ideas were that it was ledge rock practically.—A. I might add in connection with what you spoke of in reference to the use of large blasts that the material has all to be handled afterwards, and if there were a large number of boulders in it the blast will not affect the big boulders, it will loosen them up, and probably there may be one or two in the immediate vicinity of the blast that will be shattered, but the rest will be all just as they were and the number and the size of them is there and they can be measured.

By Mr. Macdonald:

Q. Is not that statement of yours very largely theoretical because, as a matter of fact, you never did measure any in practice?—A. That is you are referring to assembled rock?

Q. Yes, certainly.

By Mr. Smith:

Q. We are dealing more with assembled rock than with anything else; I may say to you, so that we will understand each other thoroughly that my instructions are that ledge rock has in all cases been measured, but that the difficulty is in measuring assembled rock. Now you always had the opinion and you still have, I take it, that the engineer on the ground is the best qualified to form an opinion as to the assembled rock?—A. As to classification generally.

Q. To classification generally. Now, supposing that you have a heavy cut to make, do they start in from both ends?—A. They may or they may not.

Q. I suppose they frequently do?—A. Oh, yes.

Q. They frequently start in from both ends, and you have a very irregular formation, a variety of formation, assembled rock that is more or less securely cemented, then we have loose rock and you may have solid rock ledge rock, and you may have a quantity of other material that will be classed as common excavation; that might take how long for a heavy cut, a long cut?—A. It will depend upon the amount of it, I cannot tell you.

Q. Will it take a month to make that cut?—A. I cannot tell you, it depends upon the amount in the cut.

Q. How long will it take for a good long cut?—A. It might take three or four or six months.

Q. You have known of cuts that will take three months?—A. I have known of cuts that actually took a year or more.

Q. The resident engineer is on the ground day by day, isn't he?—A. He is on it probably every few days anyway.

Q. He is on it on some part of it, every day?—A. Some part of it, oh, yes.

Q. He sees the material that is removed, either by blasting or by pick and shovel every day?—A. He does not see it every day, not every day.

Q. But he sees it within two or three days, he is on some part of that work every day; of course he does not see every particular part of it every day, but he is there on the ground, and we will say there are two feet moved to-day, or five feet moved to-morrow?—A. Yes.

Q. And he is on the ground and making his notes of that material during those three months, or as you have said, in a long cut for six months. Doesn't it stand to reason that man is in a thousand times better position—A. He is.

Q. To classify, than anybody else?—A. He is.

By the Chairman:

Q. Mr. Lumsden, especially in District B and District F, would you call the ground, generally, difficult to handle for railway construction purposes; that is in those two districts would you call it especially difficult ground?—A. Yes, well I would not say, no, what I have seen of 'B' it has a lot of very nasty material to handle, but in 'F' if it is expensive material it is material that is met with all over the country; it is rock; but there is a lot of work in 'B' that is nasty rock to handle, it is not as hard.

By Mr. Smith:

Q. It is the Laurentian formation, isn't it?—A. It is not the Laurentian formation, it is all mixed up.

Q. You get all classes of rock there?—A. We get all kinds of rock.

By Mr. Chrysler:

Q. What they call Quebec?

By Mr. Moss:

Q. St. Lawrence Valley?—A. Yes.

By Mr. Smith:

Q. The person who sees the edges or the sides, after the blast, immediately after blast, of course he can form a better impression, than any one who saw it later ?—A. Yes.

Q. And following the work in its progress, and following the different strata, whatever they may be, of rock, shale, assembled rock or anything else from time to time, every two or three days, if you will, that man of course naturally must know more about it than any one who looked at it later?—A. He should.

Q. That is what you mean in your letter of September 24, which is Exhibit 8 on page 103. (Reads):

> Mixed cuttings, consisting of common excavation, loose rock or cemented material, are much harder to classify, and the resident engineer, who sees the work from day to day, and makes the measurements, is in the best position to make a fair classification of same, but there is often a wide difference of opinion between experienced engineers as to classification, but no rock should be allowed except such as is actually in the cuttings?—A. Mixed measurements?

Q. Yes, but is not the—the engineer in a better position to make a fair classification?—A. Yes.

Q. To make a fair classification, is that an accurate classification?—A. No.

Q. He makes it upon the measurements he has taken from day to day; he is able to estimate a fair classification, is he not?—A. Yes, he ought to be.

Q. That is what it means?—A. Yes.

By Mr. Macdonald:

Q. Is there any one in as good a position to make a fair classification as the engineer who is there from day to day?—A. No, I don't think there is.

Q. You wrote something of the same character to Mr. Woods on May 15, 1908. Will you look at this letter, dated May 15, 1908, written by yourself to Mr. H. A. Woods?

EXHIBIT No. 56.

OTTAWA, May 15, 1908.

H. A. WOODS, Esq.,
Asst. Chief Engineer, G.T.P. Ry.,
Montreal, P.Q.

DEAR SIR,—In reply to yours of yesterday, I may say that your understanding as to the meaning of the quotation therein stated, 'I should feel bound, etc., etc.,' is not mine. What I mean is this, that if, on examining work, say a cutting practically finished, I thought the classification appeared to be excessive, I would not be prepared to ignore the classification made by the engineer who had seen the work from day to day, and state what the classification should be, without being able to verify my own ideas by actual measurements and observation of material found beyond the slopes and of the material taken from such cutting which would necessitate the digging out sections of embankments or waste where the material had been deposited. This would take considerable time, but would give a good idea of any great excess of solid rock or of other classified material that might have been returned in such cutting. I am certainly under the impression that it would be necessary to practically go over the whole of the 153 miles (196 objections) in District 'F' and a considerable portion of District 'B' east of the river, and I am still convinced that the most prompt and satisfactory manner of settling this matter would be for us to at once agree to a third arbitrator if we can, or have him appointed if we cannot, so that the three might go over the work and then and there settle all the questions raised, and not have to return over the same ground again, which would be the case should two of us not agree on even 10 per cent of the objections raised, and having again to take off slopes in cuttings or sections of embankment for the inspection of a third arbitrator.

Owing to only having received this morning your suggestion to meet you in Montreal to-day or to-morrow, previous engagements prevent my doing so, but trust to hear from you at an early date stating when it will be convenient for you to meet me either here or in Montreal, and I shall endeavour to do so, providing the Hodgins' inquiry now going on will permit it.

Yours truly,

HUGH D. LUMSDEN,
Chief Engineer.

The Commissioners of the Transcontinental Railway.

You say in this letter: 'In reply to yours of yesterday, I may say that your understanding as to the meaning of the quotation therein stated, "I should feel bound, etc.," is not mine. What I mean is, that if on examining work, say a cutting practically finished, I thought the classification appeared to be excessive, I would not be prepared to ignore the classification made by the engineer who had seen the work from day to day and state what the classification should be, without being able to verify my own ideas by actual measurements and observation of material found beyond the slopes and of the material taken from such cutting, which would necessitate the

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digging out sections of embankments, or waste where the material has been deposited. This would take considerable time, but would give an idea of any great excess of solid rock or other classified material that might have been returned in such cutting. I am certainly under the impression that it would be necessary to practically go over the whole of the 153 miles (196 objections) in District 'F' and a considerable portion of District "B" east of the river, and I am still convinced that the most prompt and satisfactory manner of settling this matter would be for us to at once agree to a third arbitrator if we can, or have him appointed if we cannot.' That is what you mean in writing to Mr. Woods with respect to the position held by the man who was on the ground and seen the thing going on from day to day?—A. Yes.

Q. Would you also read the following extract from the minutes of the meeting held by the Commissioners of the Transcontinental Railway at Ottawa on July 14, 1909. (Reads):—

EXHIBIT No. 57.

Honourable S. N. Parent in the chair.

The Chief Enginner reported verbally that it would be impossible to give an estimate of the amount of money involved in the disputes as to classification, owing to the fact that where cross-section notes of the engineers disagree with the present appearance of the work re-measurements will be necessary, and that the engineers who classified the work were not examined or requested to produce their books showing the monthly classification of the work as it progressed and that he is still of the opinion that the resident engineers who see the work from day to day, are in the best position to make the classification, if they are capable and honest; as far as their knowledge is concerned they are the best men, and everything being equal they are the best men to judge the work, seeing it done day by day.

Certified correct.

P. E. RYAN,
Secretary.

By Mr. Smith:

Q. That is a correct summary of the verbal report which you made, Mr. Lumsden, at the meeting of the commissioners?—A. 'And that the engineers who classified the work were not examined or requested to produce their books.' There were some of the engineers examined.

Q. You are referring now to the arbitration proceedings?—A. Yes.

Q. This verbal report made by you to the Commissioners was after your resignation?—A. Yes.

Q. At that meeting at which you reported, that is subsequent to your resigning your position, by the letter that you had referred to several times, you attended this meeting and made this verbal report and you were still of opinion at that time that these were the men who were best qualified to make the classification?—A. I have said so on several occasions; I have said that same thing.

Q. Did you make any charge whatever then against the engineers further than that they differed from you in opinion?—A. I don't recollect if I did, except we found some errors; I mean errors on cross-sections, what appear to me to be errors.

Q. What appear to be errors?—A. Yes.

By Mr. Moss:

Q. Mathematical errors?—A. No, not mathematical; they may have been; I cannot tell how the errors were made. That is, we could not make the ledge rock as shown on the cross-sections we had there correspond with the ledge rock as shown on the ground.

By Mr. Smith:

Q. I suppose that there might have been error on your part as well in determining the exact location?—A. The only thing—the engineers on the ground showed us

a certain station for instance, and we assumed they showed us the right station, and we looked then at the ledge rock on both sides of the cutting, but if they did not agree with the cross-sections as we had it there, we came to the conclusion there was something wrong.

Q. Errors of that sort would be quite possible?—A. Oh, they might be.

Q. Engineers, I suppose, are human, just as human as lawyers and other people are?—A. I hope so.

Q. They are liable to make mistakes now and then?—A. Yes.

Q. You did not find much of that, where you found any error in cross-sections —A. We found places where the cross-sections had not been apparently taken off enough to get at a very close approximation of the quantity.

Q. At a very close approximation?—A. A close approximation of the quantity.

Q. How close ought they to be taken?—A. Wherever there is a distinct change in the drop of the slope, for the rock, longitudinally, I mean.

Q. Had you the profile before you to determine the original shape of the ground. What led you to suppose that cross-sections were not taken frequently enough?—A. Well, it is very hard to explain it unless you are in the cutting itself, but cross-sections taken, we will say, at an even station, and the next cross-section is taken at say 60 feet ahead, plus 60 feet.

Q. Yes?—A. The one at the station showed us 10 feet of rock on each side of the excavation; the other one showed 5 feet of rock on each side of the excavation out of 60 feet. Intermediately between those, the rock ran down below the base of the cutting. We could only give an illustration.

Q. Quite so. But, Mr. Lumsden, would not the engineer who was on the ground at the time, would not he seeing what the variations were, be in the best position to tell how close he ought to cross-section?—A. Well he ought to, yes, that is what I say, but in this case, this place was where the rock rolls down and goes below the surface, and appears again probably 5 ft. ahead.

Q. Is this an instance you remember of, or are you speaking of an illustration? —A. I am speaking of an instance I remember, but I cannot tell the exact station, I think I might be able to tell it from my notes. I am only referring to one or two cases which I did notice in that way and had them take the cross-sections at half the distance, at the even station, of 30 feet, which would make a big difference in the amount of the rock.

By Mr. Moss:

Q. Would you be kind enough to look that up, because I would be interested to know just where that locality is?—A. I think I can find it.

Q. Don't bother now.

By Mr. Smith:

Q. I suppose I am right in assuming that cross-sections would not be taken at even distances, they would be taken according to the formation?—A. That is how they should be taken, but they are very frequently taken at even stations; in any case, whether they are taken intermediately or not, as a rule they are taken at even 100 feet and as many intermediate ones as are necessary.

Q. I suppose you are aware that they very often took them 10 feet apart?—A. Oh yes, they may have to take them 5 feet apart.

Mr. MACDONALD.—Take what?

Mr. SMITH.—Cross-sections, according to the formation and character of the country.

By Mr. Smith:

Q. Now I don't understand from your evidence now, Mr. Lumsden, that that

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criticism is at all general. You have spoken of one or two cases?—A. No, I would not be positive as to the number of places; it was not a great many.

Q. What I should like to get at and what I think the honourable members of the committee would like to get at, is to determine the principle upon which this thing has been done; if we can find any wrong principle then it is their desire to make it right. An exceptional case, where a cross-section might have been taken more frequently, it is worth nothing, but I want to get from you this, that you do not make that as a general criticism upon the work at all?—A. No.

Q. You are also aware, Mr. Lumsden, I suppose that very frequently they took cross-sections. I don't know how many of them were taken at less distance than ten feet, but I understand a great many were taken 10 feet apart. Does that agree with your knowledge?—A. They ought to be, in a rough country, in very rough rock; it depends on the lay of the rock.

Q. This was a rough country, a very difficult country?—A. They have to take them as often as necessary to get at an actual approximation of the quantity of the work.

Q. That has to be left to the judgment of the engineer who is doing the work?—A. There is nobody else can do it. The rock is gone probably before——

Q. After the rock is removed, the conditions then are all changed, are they not?—A. Yes.

Q. In looking at the work after it is done, you could not say what the formation was, previous to the work being done, could you?—A. By looking at the surface adjoining the work you are inspecting, adjoining the cutting that has been taken out, and looking at the material that is taken out, you could have some idea?

Q. Some idea, that is all? You have nothing you could base your opinion on that would be worth much?—A. It depends on the experience of the man who does it, I think, to a certain extent.

Q. Is it not a fact that the slopes will change by the weather?—A. Oh, yes, slopes do change.

Q. Will be washed down, the material will be washed down and washed away and so on, so that they will change in appearance in a very short time with the weather?—A. Yes.

Q. And then I suppose also material may be moved from place to place, if you are going to fill up a trestle here or there, you may remove material. Sometimes, I think you told us the other day that you had to draw a considerable distance?—A. What are you referring to? Train haul material?

Q. Yes.—A. Yes, sir, but train-haul material would not be taken out of the cutting.

Q. Why might it not?—A. If the slopes had been taken off, they would not take it out of the cutting; they would borrow it from the sides of the cutting, not from the original cutting.

Q. It would be the material that would come out of the cutting?—A. No.

Q. It might?—A. They would have to handle their station if they took it out of the cutting first of all, and then handle it by train.

Q. At all events there is some of that cutting moved?—A. Which material?

Q. The material taken out of the cutting?—A. It has all to be taken out. It is moved off to the nearest embankment that has to be made, if there is rough stone in it there is a lot of stone in that embankment, and if there are a lot of boulders in it, there are a lot of boulders come to the outside of the embankment. We have seen that in many cases.

Q. And that embankment may be 5 feet away or it may be 500 feet away?—A. Oh, yes.

Q. How could anybody, Mr. Lumsden, tell where the material had come from that you found in the embankment in such a way as to form an intelligent opinion on it?—A. You can tell frequently by the progress profiles. The banks are made out continuously.

By Mr. Macdonald:

Q. I suppose it is this way, if there is an entrance, you find a cutting some place away or in close juxtaposition to it?—A. If there is an entrance it probably came from the cutting.

By Mr. Smith:

Q. That is about all you are able to say?—A. If the cutting is being taken out continuously, and the embankment as a rule is always made continuously, because you cannot get on to it until you make it, you can tell approximately where the material came from the cutting.

By Mr. Moss:

Q. Even to do that you would have to make all those investigations you referred to in your letter. You would have to make the measurements and investigations you referred to in your letter?—A. To Mr. Woods?

Q. Yes. Even to get that approximation you would have to do that?—A. Yes, you would have to dig into the embankments.

By Mr. Smith, K.C.

Q. And take all sorts of measurements and get all information as to just where the material came from if you were going to form an opinion which you were going to act upon; you would want to get first of all, all your measurements, then you would want to get information as to where the material you were examining came from, or rather to dig into the sides and all sorts of things, wouldn't you?—A. Yes.

Q. And then you would only have a rough approximation.—A. You would have some idea.

Q. I have notes of several occasions on which you expressed the same opinion that the engineers who did the work were the best qualified to make the classification, but I won't weary the committee. I might simply refer once more to the written statement which you filed here, which is Exhibit No. 1 on page 71 of the Proceedings of this committee. In that you say:

> In regard to my loss of confidence in a certain portion of the engineering staff, I might say that this was due to their failure to carry out, in accordance with my views, the terms of the General Specification and of my instructions and interpretation of clauses 34, 35 and 36 of the specifications. The engineers on the ground who saw the work frequently while in progress ought necessarily to be best qualified to make the classification provided that they have the necessary experience and are honest, and though I may doubt whether some of them had the necessary experience as exemplified by the manner in which some cross-sections were taken, I do not challenge the honesty of their intentions.

That, I take it, must have been a deliberate statement on your part, when it was filed as your written statement to this committee?—A. Yes.

Q. And your opinion still is now that the engineers who did the work are the best qualified to make the classification, provided they be capable and honest, and you have already stated in this statement several times that you do not challenge their honesty?—A. No.

Q. So it gets down to this, that you challenge the capacity of some of the engineers in this work, is not that it?—A. I don't know how you put it, I know I cannot agree with them.

Q. But in this statement you say they are the best qualified, undoubtedly, if they are capable and honest, and you do not challenge their honesty?—A. Yes.

Q. Consequently it gets down to their capacity, does it not?—A. I think so.

Q. In the making of this classification?—A. Yes.

Q. That is right, is it not?—A. As far as I can see, it is right.

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Q. In examining the slopes after the work has been done, and more especially after it has been done for some time, do you get any very definite idea of what the character of it was before the material was removed?—A. If you only look at what you see on the outside you may be very much deceived, but I think if you dig in three or four feet into where the material has been disturbed, then you get a pretty good idea of what was adjoining it.

Q. You get some idea, but you have already stated that in these mixed cuttings it varies very much, so that usually in the centre cuttings might not be the same as in either side?—A. It might not be, but as a rule it runs in some sort of formation. It is not liable to hump in the middle cut and follow that on a curve.

Q. Does it not as a matter of fact. I am told that is exactly what it does?—A. I have not had experience in finding it in that way.

Q. I think you told us you had not had experience in this particular country?—A. No, I have not had in that particular country, but I have been in a good deal similar countries.

Q. You have never had to make classifications along the lines similar to this Transcontinental?—A. I have been in a very much similar country.

Q. Where was that?—A. They are pretty far apart.

Q. They are a long way apart?—A. Yes.

Q. But in this particular country you never had occasion to make classifications?—A. No, I looked at classifications, in a lot of it; through the State of Maine there is classification a good deal like some of it in Quebec.

Q. It is not as far north and it is not as rocky?—A. It is pretty rocky.

Q. You would not say it is as rocky as you find it in the northern part of the province of Quebec for instance?—A. Part of the line through Maine is very rocky.

Q. Very rocky indeed, eh?—A. Yes.

Q. I am told that in many of those cuts there was the most striking variation, and that the material on the sides would really not be an indication of what there was in the middle before it was moved?—A. I cannot say as to that.

Q. In so far as the material in the centre of the cut differed from the sides, of course I suppose it would be no indication, naturally?—A. No, it would not.

Q. Is it not also a fact that these different forms shade into one another so to speak, the line of demarcation is not very distinct?—A. Sometimes it is; sometimes it is not.

Q. I suppose that is practically all you can say about it, sometimes it is abrupt and you get a distinctly marked line, and other times it shades almost imperceptibly, one class into another?—A. At times it would be very hard to determine the exact line.

Q. In cases of that kind you would have to, after taking your measurements, you would have to make an estimate of some kind where one is shaded into another; in that way you could not do anything else than estimate. 'Well this is 20 per cent so and so, and this is 24 per cent so and so,' could you?—A. You could get at that estimate very closely by taking the proportion of stone in it.

Q. Your modified interpretation eliminated altogether the question of the size of the stone?—A. Exactly the size.

Q. In deference to the opinion expressed by the Deputy Minister of Justice and other counsel and so on?—A. Yes.

Q. So that you might have that assembled rock with very small stones in it?—A. Well, there would be a great many small stones.

Q. There would be a great many small stones?—A. Yes.

Q. Did you, by the way, arrive at any percentage of stone or rock that assembled rock ought to contain?—A. That would depend on the size of the rock.

Q. It would too, would it?—A. Yes, I mean that the percentage would depend on the size of the rock, whether it is very big or very small.

Q. Suppose you had rock of exactly the same shape?—A. All circular, we will say.

Q. A globe?—A. Yes.

Q. Would not the proportion be exactly the same whether they were small or large?—A. It appears to me the voids would be less with the small stones than they are with the big ones.

Q. If they were absolutely round would they not be the same, the voids would be exactly the same?—A. I don't think they would be exactly the same. One thing is, if you have large stones and small stones mixed you get a great deal more——

Q. Voids?—A. No, you get a great deal more in the cutting of the stone than if they were exactly the same size.

Q. Do you remember discussing with Mr. Doucet the question of what percentage assembled rock ought to have of rock?—A. I remember some conversation with Mr. Doucet about it; I don't remember the particulars of it though.

Q. Do you remember the suggestion that there ought to be about 50 per cent of rock?—A. I think I recollect 50 per cent renewed, but I don't think I agreed to 50 per cent, but I think there would be 60 or 65, something like that; I don't know the exact percentage. I think if you take spheres and put them into anything square; take a cubic yard, rather say you take a cubic yard and fill it with spheres, that would make up about 65 or 66 per cent, and the remaining 35 per cent would be voids.

Q. Would not that be a very high percentage, Mr. Lumsden?—A. I don't know that it would be very high, not if you take different sizes and put them in as thick as they go.

Q. You must also make allowance for irregular shapes?—A. Yes, very often, irregular shapes give a chance for the small stones to go in.

Q. They also give a chance for the cemented material, quite a large proportion?—A. Yes.

Q. With irregular shapes, or supposing even from the point of contact in each case, supposing they are touching with irregular shapes you may have a considerable amount taken up by the cementing material, whatever it is?—A. Oh yes, you may.

Q. I have got a few notes here, Mr. Lumsden, taken out of Trautwine, that is a recognized standard authority, is it not?—A. Yes, it is a well known book.

Q. Now, see whether you agree with these figures: 'One solid cubic yard when broken into fragments in loose heap.' It says that the solid will be 52·6 per cent and the voids 47·4 per cent?—A. How much.

Q. 52·6 per cent and the voids 47·4 per cent?—A. Yes.

Q. Then he says if this be carelessly piled 1·75 cubic yards, solid rock will be 37 per cent in voids 43 per cent. Carefully piled 1·6 cubic yards solid 63 per cent, voids 37 per cent. Then he comes to rubble. He says that rubble very carelessly scabbled —A. That has nothing to do with it.

Q. Wait a moment now. Rubble carelessly scabbled 1·5 cubic yards 67 per cent of solid, 33 per cent of voids. Rubble somewhat carefully scabbled 1·25 cubic yards, 80 per cent solid and 20 per cent of voids. Now what do you think of these figures?—A. I cannot say what I think of them. I have never looked into the figures.

Q. Would you venture to differ from the figures?—A. I can't say whether I would or not. I have never thought of the figures.

Q. Well these figures it would seem to me would be of some use in estimating what proportion there would be of solid in this assembled rock. In the first place on what principle would you say that the rock would have to be touching if it be naturally cemented together with cementing material?—A. You might only get two or three feet of rock and a yard of cemented material if they were not touching.

Q. But supposing that you had enough cemented material—enough cementing material we will say—to weld it into one mass that in the opinion of the engineer could only be removed by blasting, under your amended interpretation you would have

to classify that as solid rock?—A. No, I would not unless there was a large percentage of rock in it.

Q. You have not given the slightest intimation of the percentage of rock?—A. I think there should be in the neighbourhood of what is represented by that schedule, say about 60 per cent—60 or 65.

Q. Sixty per cent?—A. I have not taken out the percentage but the rock should be touching, it should be a mass of rock as if it had been piled together and then cemented.

Q. Well, Mr. Lumsden, when you were revising these interpretations so as to remove all doubt and to put into the hands of engineers something that would guide them absolutely, didn't it occur to you to give them any percentage of rock at all?—A. It didn't. It didn't occur to me.

Q. Well would it have put them in a much better position to carry out your wishes if you had?—A. It might have.

Q. I am not doing this to defend them, but I want to see if they did not carry out your views why they did not. Did you ever verbally give them any intimation of what percentage of rock there should be?—A. The only recollection I have got of talking about the percentage at all was, I think, with Mr. Doucet.

Q. I may tell you I asked a question of Mr. Doucet, and his recollection was that you had agreed to 50 per cent?—A. I never agreed to 50 per cent. I remember distinctly of Doucet mentioning 50 per cent.

Q. You remember his mentioning it?—A. I remember his mentioning it to me. I think it was on the trip when we went out on the arbitration.

Q. Well, rubble is practically stone wall, is it not?—A. Yes, it is a rough wall.

Q. Rough stone wall? If rubble work carelessly scabbled would give only 67 per cent of solid rock and 33 per cent of voids, surely you would not get in the natural formation of the assembled rock anything assembled as closely as that would you?—A. I have told you I never pretended to take up the percentage that is shown on that, but simply when the rocks were touching whatever the percentage was.

Q. Did you tell Mr. Doucet that you differed from his view as to 50 per cent?—A. I don't remember the conversation, but I remember Mr. Doucet's—I am pretty sure he mentioned 50 per cent—I think he said something about the Grand Trunk engineers having agreed to it or something.

Q. I was just going to ask you that question whether they did or not?—A. I know nothing about it. I know I didn't agree with Mr. Doucet at the time.

By Mr. Moss:

Q. Did you state that you didn't agree, Mr. Lumsden?—A. I believe so.

By Mr. Smith:

Q. You are not very sure?—A. I just remember something about 50 per cent and I have only a hazy recollection that something was said about the Grand Trunk railway.

Q. You remember Mr. Doucet telling you that he had understood from one of the engineers, one of the district engineers of the Grand Trunk Pacific, that their superior engineers agreed to 50 per cent?—A. I cannot remember, I remember something about 50 per cent but I cannot remember the details of it.

Q. It was in the office at Ottawa that the question was discussed, the 50 per cent?—A. I thought—my recollection of it was that Mr. Doucet mentioned it to me out on the work in Quebec. That must have been in June, I suppose.

By Mr. Moss:

Q. You are speaking of the arbitration time now, Mr. Lumsden?—A. Yes.

Q. But six months before that Mr. Doucet says he was in your office and that you brought up the question then?—A. Oh, I don't recollect that.

Q. You have no recollection of that conversation at all?—A. No, I don't recollect that conversation at all. I was referring to——

Q. At the time of the Hodgins' inquiry, do you recollect it then?—A. No, I do not.

By Mr. Smith

Q. Now with regard to the slopes. What instructions, if any, did you give as to the slopes to be maintained in case of assembled rock being removed and things of that sort?—A. I don't remember giving any special instructions regarding slopes in assembled rock. The instructions cover rock and earth, the general instructions do. But I rather—I think they refer to loose rock and cemented material, but I am not positive of that. Are they one to one and a half?

Q. Yes.—A. (Reads): 'Loose rock 1 to 1. Solid rock ¼ to 1 inch.'

Q. Well, now would you hold it safe in all cuts that had to be classified under your revised interpretation as solid rock excavation that slopes of ¼ to 1 should be maintained?—A. Not be maintained, I don't think they would stand.

Q. That is the point. Would they stand?—A. It is questionable. It would depend on how hard they were cemented. It is not likely they would.

Q. I have had a little blue print prepared which I would ask you to look at (handing blue print to witness).

Blue print filed as Exhibit No. 58, and printed opposite page 566.

Q. It of course is not a natural cross-section?—A. No, no.

Q. It is simply an illustrative sketch.

The CHAIRMAN.—What is it?

Mr. SMITH.—This is a sketch where boulders exist. If you try to maintain your ¼ to 1 slope you would incur the risk of boulders coming down on the track all the time. You cannot preserve those slopes at all. That is the point I want to make and that you cannot tell from examining the slopes what was the classification.

By Mr. Smith:

Q. Well, Mr. Lumsden, you have just told us that you don't think the sides could stand up at ¼ to 1?—A. Unless they were particularly hardly cemented together.

Q. Well, supposing it was very hardly cemented at the time it was classified?—A.

Q. Exposed to the weather?—A. Yes.

Q. And to rains and washouts and everything of that sort. Would it not be extremely risky to attempt to maintain any such slopes where you have cut out the assembled rock?—A. It would probably, to attempt to maintain ¼ to 1.

Q. Would you not have to grade your slopes according to the nature of the material?—A. Yes, according to how the material stood. It would eventually come to that.

Q. And if your material was very much loosened up by the blasting, you would have then, I suppose, to give it quite a wide slope, would you not?—A. It would take a slope of itself. It would fall down.

Mr. CHRYSLER.—It would fall down.

The WITNESS.—It would fall down.

By Mr. Smith:

Q. A great deal of it would not fall down immediately, but you could not leave it in that position, could you?—A. It would eventually come down.

Q. So you as an engineer, would of course take down whatever you saw was to come down sooner or later, would you not?—A. Yes, you would have to.

Q. You would never leave anything on your slopes to come down on top of a train or in front of a train?—A. Well, you should not.

Q. So then looking at the slopes afterwards you could not tell from the slope whether it was 1½ to 1 or what it was, you could not tell just what the material was

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that was taken out of that cutting, could you?—A. You could not tell positively what the material was.

Q. Now, with regard to overbreak. You told us you had no knowledge of the amount of overbreak there was in district 'B'?—A. No, I don't remember the overbreak.

Q. In district 'B' I understand there is a very small amount of overbreak?—A. On district 'B'?

Q. Yes.—A. I don't think it is very large.

Q. It is in district 'F'?—A. That the large amount is——

Q. That the large amount of overbreak is. What you have said with regard to assembled rock and the necessity of removing whatever is likely to come down, would that not also apply to rock in seams? Where you have got a very seamy rock, where there is clay in seams, would you not have to take down all that is likely to come down?—A. You would have to take down what was likely to come down, you should take it down.

Q. Yes.—A. That is——

Q. Yes.—A. That is, the question that would come up, would be why it was coming down, why it was so ready to come down, whether it had been shattererd up by the excessive use of explosives.

Q. Well, the engineer in charge would have to deal with that question whether an excessive amount of explosive was used or not. He always has to deal with that?—A. Oh yes.

Q. Supposing you have thin layers of clay or a very seamy rock, won't those conditions bring down a great deal more than if it were absolutely solid ledge rock?—A. It would depend upon the way the stratification of the rock was laid.

Q. Precisely so. But you can very well imagine stratification in such shape as to bring down a large quantity of material?—A. Which becomes slips.

Q. Slips and slides?—A. Yes.

Q. The quantity of overbreak then might depend principally upon two things: upon whether an excessive amount of explosives had been used and upon the stratification of the rock, the material.—A. Yes.

Q. In your examination of district 'F' were you able to say from any examination you made how much overbreak that you considered excessive was due to one cause and how much was due to the other?—A. Only by practically—only a guess you may say. I made no measurements.

Q. But, Mr. Lumsden, I understand that that was really a serious fault you found?—A. Yes, it is, and it is going to be a fault for all time to come.

Q. A serious fault you found on district 'F'? How do you mean it is going to be a fault for all time to come?—A. I mean where the rock is shattered there is going to be rock for years to come coming down in some places.

Q. In district 'F'?—A. In district 'F.' I mean in some particular pieces of cuttings.

Q. Did you make notes of those?—A. No I did not. I have got notes of some places probably which were very badly shattered, or something like that, but I have no particular notes.

Q. Have you a note of any place at all where there is danger of rock coming down?—A. No. What I say is the rock will come down eventually; it may not come down for years.

Q. But if it is going to come down it is not safe to leave it there, is it?—A. It may be safe to leave it for a time, but there will be a lot more come down, because it won't come down until after it has been affected by a frost for a certain length of time.

Q. You are not prepared to carry the responsibility of leaving any place exposed?—A. Not anything that is liable to come down immediately, but as years go on there will be certain more of that rock come down; owing to heavy blasting it may come down. It may not come down for years but it will be worked out by the frost.

Q. You did not see it of course before the blasting was done?—A. No.

Q. Well how are you able, Mr. Lumsden, to say that it was caused by excessive blasting?—A. Well in some cases it was simply by seeing how the rock was shattered.

Q. But you did not see the rock before, you didn't know how seamy it was?—A. But you could see the seam from what had been broken off. You could distinguish a seam from a fresh crack which is caused by explosives.

Q. Before you saw it at all?—A. One looks as if it had been weathered to a certain extent and the other doesn't.

Q. How long had they been at work on 'F' before you visited it at all?—A. Oh, about—part of 'F' the rock work on 'F' I didn't see anything of I suppose until nearly a year after it was started.

Q. More than a year was it not?—A. Not the first time I was up there. I was up back of Kenora in—

Mr. MACDONALD.—Have you reached a point, Mr. Smith, where you can break off?

Mr. SMITH.—I can do so here if you wish.

Mr. MACDONALD.—Very well then.

Witness retired.

Mr. MACDONALD.—Before we adjourn, Mr. Chairman, it is within the knowledge of every one that some reference was made in the House of Commons yesterday to a motion which it was alleged Mr. Lennox had moved as a member of the committee here on 22nd February, and some question was raised as to the report to the House of the proceedings of the committee—a report which was made upon that day. As, of course, every one in Parliament knew, though nobody outside who was not acquainted with Parliamentary rules would know, the discussion in the House was intended simply for the purpose of misleading people who were not aware that the duty of preparing any report from this committee or any other committee rests upon the gentleman who happens to be clerk of such committee at the time. Speaking for myself and I think the other gentlemen of the committee who are present—outside of yourself, Mr. Chairman—we, of course, knew nothing whatever as to the report that was prepared by the clerk, and I simply mention the matter for the purpose of asking through you that the clerk should state for the information of the committee what he did in regard to this matter.

The CHAIRMAN.—Could you, Mr. Todd, make any statement to the committee as to that question?

The CLERK.—Mr. Chairman, my recollection of what took place that day is this: just as the committee was breaking up and there was consequently confusion, Mr. Lennox got up and read, or moved, this motion that the committee recommend that their proceedings and the evidence taken by them be printed and reported to the House from day to day. I at once mentioned to you, Sir, that there was something peculiar about the motion, it did not strike me as being——

Mr. MACDONALD.—That was after the committee left. You did not mention anything of that kind in my presence or my hearing. I heard nothing of it.

The CLERK.—The suggestion was to get authority to print the evidence. Mr. Lennox then made his motion; but coupled with the motion to have the evidence printed was the suggestion to have it reported from day to day. I did not quite catch the phraseology of the motion, but I knew there was something peculiar about it and I spoke to the Chairman at the time and said 'We have all the necessary powers for reporting under the Order of Reference because that Order has given us power to report from time to time; that means we can report every day, or twice a day, if you want to.' The Chairman said 'Yes, I think he has made some mistake about it and the motion just means the usual thing, that is to recommend the printing of the proceedings.' To make sure about the matter I went and spoke to Mr. Lennox and asked him if he had not made a mistake about reporting from day to

day. He said 'No. I have thought it all out and I have adopted that phraseology advisedly. I wish you to put it down just as I have given it.' I said, 'All right, I will put it down.' I thought Mr. Lennox meant to place the motion in the minutes, as he read it, so I recorded it there, and as a matter of fact it appears on the minutes, of this committee on Tuesday, February 22. What Mr. Lennox meant, however, as I subsequently learned was that I should put the resolution in the report of the committee to the House. This I did not realize at the time.

Mr. MACDONALD.—He says that he meant that.

The CLERK.—I did not realize that. And, I may say, it is not the practice of the House to order committees to report from day to day nor has it been the practice of any special committees since confederation, so far as I know to have their evidence reported from day to day. It is one of the principles of Parliamentary procedure that when a matter is referred to a committee for investigation it shall be so investigated, and when the committee have completed their investigation, they report the result to the House. It is an entirely unusual practice for any committee to be ordered to report their proceedings or the evidence taken by them from day to day. I have looked over the Journals of the House with a view of getting a precedent for such action and I cannot find one since Confederation. There may possibly be some precedent hidden away in the Journals of the House, but I have failed to find any with the exception of one which occurred in the Public Accounts Committee in 1902. In that case the very same motion 'to report from day to day' was made by a member in committee, and the proceedings of the committee were reported to the House as the Seventh report of the committee on Public Accounts for that year. That report, however, was not concurred in by the House. That is the only precedent bearing on this question that I can find up to the present.

Mr. MACDONALD.—That is not really a precedent.

The CLERK.—No, it is not a precedent. In the case we are now considering, the procedure being so unusual I did not appreciate what the effect of Mr. Lennox's motion was. I talked it over with the Chairman and we both came to the conclusion that Mr. Lennox had just made a mistake or intended to make use of his motion at some later stage of the proceedings and that if we put his motion in its entirety into the report it would be simply asking the House to give us what we already possessed—the right to report from time to time whenever we wanted to. I therefore drew up the report asking for leave to have the evidence printed, but omitting the other part of the motion because we, the Chairman and myself, though it superfluous. It was not until some time afterwards that I began to realize there was something more in the motion than appeared on the surface. It was undoubtedly a misapprehension on my part; but owing to lack of experience in procedure of that kind I did not appreciate the point at the time.

There was another point that was brought up in the House with regard to the committee limiting the printing of the evidence to copies for its own use instead of printing for the whole House as the motion of Mr. Lennox appeared to call for. The phraseology of the report was that the evidence be printed 'for the use of the committee.' I may say with regard to that, that there was no limitation intended. There is a rule of the House which says that no printing can be done except upon the recommendation of the Printing Committee, and therefore a committee of this kind cannot properly recommend that printing be done for the whole House. If a committee desires to have its proceedings and evidence printed, it must be only for its own use.

Mr. MACDONALD.—If the House wants the evidence it must take action itself.

The CLERK.—Yes, it takes action itself either by sending the matter to the Printing Committee for their further report or else if they suspend the rule—as they did in this case—the proper officer gives the necessary authority to the Printing Bureau for the number of copies required for distribution. As a matter of fact in cases of this kind there has always been—and it was so in this case—a sufficient number of

copies struck off not only for the use of the committee but also to furnish each member of the House with at least one copy when the evidence is formally reported to the House.

Mr. CLARKE.—They are not getting copies now.

The CLERK.—That is because the evidence has not yet been reported to the House, but when it is reported a copy will be supplied to each member. I do not know whether it is necessary to say anything about the signature appearing on the report under discussion. Mr. Geoffrion said to me on February 22 that he would probably not be present when the House met, and if he were not I should give the report to Mr. Clarke and ask him to present it for him. When the House met Mr. Geoffrion was not present, consequently I handed the report to Mr. Clarke who signed it, but instead of affixing his own signature he appended the name of Mr. Geoffrion under the impression, I presume, that it was necessary to have the Chairman's name attached to the report, though that is not obligatory.

Mr. MACDONALD.—I assume that Mr. Clarke was authorized to do that.

The CHAIRMAN.—Of course, he was authorized by me to do it.

The CLERK.—That is the whole explanation of how the difficulty took place. I expressed my regret to Mr. Lennox that my stupidity, if it may be called such, or want of comprehension or appreciation of the point he was making, should have interfered with his plans in any way; but as far as I am concerned—and I am sure as far as the chairman is concerned—whatever harm or injustice was done by the omission from the report of the words 'and reported to the House' was done unconsciously and quite unintentionally.

Mr. MACDONALD.—Are we to understand, Mr. Todd, that you have made search of all precedents with reference to a matter of this kind from 1867 down to the present time, and that you can find no precedent for a resolution such as that of Mr. Lennox being adopted by the House?

The CLERK.—Except the one in 1902 that I cited.

Mr. MACDONALD.—But in that case the resolution was not adopted.

The CLERK.—It was not adopted. My search was necessarily confined to the general indices to the Journals of the House of Commons.

Mr. MACDONALD.—Such means of information as were accessible to you or to members.

The CLERK.—It is possible that if I took the Journals and went through them one by one for the last forty years, I might possibly find one or two cases, but I doubt it, because if there were such they would be shown in the general indices.

The CHAIRMAN.—In view of the statement made by the clerk, what is the pleasure of the committee?

Mr. MACDONALD.—As I understand, it has been suggested by some gentlemen of the opposition that they want to discuss something in the House in connection with the matter, and as it would be a very unfortunate thing to deprive these gentlemen of the opportunity of making speeches if they wanted to, I would move that the clerk prepare and submit to the committee at its next meeting, for its consideration, a report of the evidence and proceedings of the committee since the date on which the last report was made. I make that motion with a view to considering what we should do in pursuance of the general power conferred on us by the House in the order of reference to report from time to time.

Mr. CLARKE.—Would you say since the last report? There was some evidence taken prior to that.

The CHAIRMAN.—The clerk can prepare a report covering the proceedings from the beginning up to date, and we will consider what we will present to the House.

The CLERK.—We might present Nos. 1 to 5 of the evidence.

Mr. MACDONALD.—Prepare a report and submit it to us at our next meeting and then we will decide as to what we shall do. My motion is that you prepare a report to submit to the committee at its next meeting.

The CHAIRMAN.—Will you have time to prepare that report for to-morrow?

The CLERK.—Yes.

Mr. MACDONALD.—I understand my motion is carried.

The CHAIRMAN.—You have heard Mr. Macdonald's motion. Is it the pleasure of the committee to adopt it?

Motion declared adopted.

Mr. MACDONALD.—I might say before we separate in regard to this question raised by Mr. Lennox, that as far as I recollect the proceedings at the meeting referred to, the motion was put just as we were leaving the committee room, and I have no recollection, Mr. Chairman, of you having stated that any such motion was carried. A number of gentlemen of the press were here at the time and were watching the proceedings, state positively that it was not carried.

The CHAIRMAN.—I know things were in confusion on the occasion of the meeting referred to, when Mr. Lennox made his motion. Everybody, as is the case generally at such a time, was standing up and making ready to go. The motion was read, or if not read was recited verbally, by Mr. Lennox, and I thought it was put. However, I have no precise recollection about it, and I explained in the House yesterday how it happened. Now we will make a report and I think everybody will be satisfied.

Committee adjourned.

FRIDAY, March 18, 1910.

The committee met at eleven o'clock a.m., Mr. Geoffrion, the Chairman, presiding.

The examination of Mr. HUGH D. LUMSDEN resumed.

By Mr. Smith:

Q. Mr. Lumsden, you were asked at the last session of the committee how long this work on District 'F' had been in progress before you first visited it, and I think you said about a year?—A. I can't be positive about the length of time, I am not sure; I saw some work in the vicinity of Winnipeg, that is out on the prairie there, not very long after the contract had been let, but can't remember the date. I could find that out by referring back to my diary.

Q. Was there any reason for your not visiting the work earlier?—A. As I say, I was on the prairie portion of the work pretty early in the first season it started.

Q. But having the full responsibility for this work, of course you can correct me if I am wrong, I should have thought it would have required frequent visits from you?—A. I should have liked to be out on the work more frequently than I was, but I was so much engaged in the office, and having so many assistants, I did not go out as frequently as I should.

Q. Doesn't it occur to you now that if you had been able to visit the work more frequently many of these differences of opinion would not have probably existed at all?—A. Some of them might not have or probably they would have been taken up earlier.

Q. For instance, all this difference of the overbreak which we have just been talking about, which is a very large item in District 'F,' had you been there and had you been able to inspect the character of the material that was being moved, don't you think it probable there would have been very much less chance of difference?—A. I do not think there would in the case of overbreak; I could not tell beforehand what the overbreak would be.

Q. But, Mr. Lumsden, I suppose there must be a difference if you are dealing

with a cut 10 feet deep or a cut 50 or 60 feet deep; there must be a great difference? —A. There is a difference in every cut.

Q. What would you say about preserving your slopes of ¼ to 1, supposing you have a very deep cutting to make?—A. They never come out exactly ¼ to 1, not in rock.

Q. Would you consider it safe to maintain such a slope as that on as high a cut as that—¼ to 1?—A. It would depend on the rock.

Q. Had you been there, had you been able to get out more frequently and seen this work, don't you think it probable there would have been less chance for these differences of opinion between you and your engineers?—A. I can't say as to overbreak in rock, because you would have to see what was in the cutting.

Q. How many visits altogether did you make to District 'F'; I have some notes here, I think?—A. I think, about five or six.

Q. As many as that, Mr. Lumsden?—A. I think so; I mean portions of that.

Q. I have a note that you visited District 'F' between the 23rd of October and the 4th of November?—A. What year?

Q. 1908?—A. I visited portions of them.

Q. When?—A. At least that is my impression, but I can look that up in my diary; I can't tell from memory the date.

Q. If you could give me the actual dates?—A. I could from my diaries, but I haven't my diaries here for that year.

Q. Could I trouble you to turn up your diary and tell the committee just how often and when you visited District 'F,' and give us the same information with regard to District 'B'?—A. Yes.

Q. I tell you frankly what my object is, simply to show that if you had been able to visit these districts more frequently the chance of your differing from your engineers would have been reduced a great deal?—A. That might be; I might say that with regard to the time I was on the work I did not separate it for the different districts; I just summed up the number of days I was absent in each year, on business, from here, and all I recollect is that for 1908 I was absent 61 days, and the other years I think it was—I can tell by looking at the memorandum.

Q. Talking of overbreak, you went several times, at all events, to District 'F'?—A. Yes.

Q. Do you think you went frequently enough to tell something about the formation and the character of the material met with?—A. I saw it when the work was being done or after it was done.

Q. If you saw it at the same time that it was done it would be quite different, so I am instructed?—A. You could see where rock was taken, the stratification of it, even after it has been done.

Q. My instructions are that it is the unanimous opinion of the engineers and of the contractors that this is the most difficult material that has ever been attempted to be removed in railway work on this continent; that is their opinion, that is what they tell me.—A. I can't see anything in it to make it specially bad.

Q. They say that they met in the various cuts granite, trap rock, and the hardest and most difficult materials sometimes thrown in together. Did you see any of that? —A. I might have seen some trap, I do not recollect at the present moment, I do not think it is very much different rock from what the Canadian Pacific railway went through on the north shore of Lake Superior or in spots between Rat Portage and Fort William.

Q. You know there is granite on this line?—A. I do not know of much granite.

Q. Very heavy and difficult stone to move?—A. There is much more gneiss on this line than granite.

Q. How does it differ from granite?—A. It is practically the same composition, but gneiss is laminated in seams, and the granite is not.

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Q. It is very difficult stone to move, isn't it?—A. It is hard stone and takes a good deal of drilling, but not as hard as trap.

Q. When a contractor is face to face with a lot of this very difficult material he has the choice, I suppose, of putting in a blast exactly large enough, in his opinion, to move it, or of perhaps taking no chances, and going a little deeper?—A. He takes the risk of that.

Q. Supposing that he puts in a blast that is not sufficient to do the work, what is the result?—A. He has to put in another blast.

Q. Is that all?—A. That may be all.

Q. But, as a matter of fact, is it all?—A. I can't say, it depends on circumstances.

Q. Isn't it a fact, Mr. Lumsden, that if he puts in a blast and blows out and does not do the work he practically loses three times as much time?—A. Oh, he may lose some time.

Q. The blast will have some effect, won't it?—A. Probably.

Q. You say probably it will have some effect? It is 500 to 1 that it will have some effect?—A. Yes, I say probably it will have some effect.

Q. It will mean this that he will either have to block it all up or begin all over again and take more time by a great deal than the original operation took?—A. It may not take more time than the original operation; he will simply have to drill more holes, he may not take more time than he did originally in putting down the holes.

Q. The blast will destroy it to that extent without moving the rock that it will cause a great loss of time?—A. It will cause some loss of time.

Q. Not to speak of the loss of explosives?—A. Of course he loses the explosives if they went off, and if they did not——

Q. If they simply blow out without doing the work they were intended to do in moving the rock he would lose his explosives, and he would have time lost, a great deal of time would be lost on the work, wouldn't it?—A. He would lose some time.

Q. Now, is it not natural and is it not prudent that a man dealing with a material should use explosives enough to do the work?—A. He has got to be the judge of that himself.

Q. Well, would you consider it—would you as an engineer hold a man guilty of using an excessive quantity of explosives if he exceeded by a few per cent what would theoretically move that quantity of rock?—A. Well, I think that if the specification is such that he is not to be paid for anything outside, he takes those chances.

Q. But would you hold him down in that strictness? The man has got to carry out his work within his contract time, would you hold him down to theoretical quantities in his explosives?—A. I could not tell any theoretical quantities in explosives.

Q. Well, you must have some standard or some theory in order to determine that a man is using a sufficient quantity of explosives. When you say excessive, it is in excess of what, of some standard in your mind is it not?—A. It depends upon the rock—the amount of explosives he is using and the nature of the rock, and how it is laid.

Q. You told us yesterday about blowing a whole mountain down, or something of that sort? What was that?—A. That was at—it was on what they call part of Canyon Lake. It stood back probably 80 or 100 feet off the line, at a big cliff at the edge of a lake. They put in some heavy charges and it blew out, I understood, 43,000 yards at one place.

Q. I don't think you paid them for that, did you?—A. They paid them for a portion of the——

Q. What portion?—A. I think somewhere about 15,000 or 16,000 yards that was used up in the fill.

Q. You paid them for the portion that was necessary to remove for the work, or that could be utilized reasonably in the work?—A. We paid for the portion that

was in, that was said to have gone into the embankment, measured by soundings after the blasts had been made.

Q. In deep cuts I suppose there is more chance of overbreak than there is in the smaller ones, more likelihood?—A. Yes.

Q. And I suppose you are aware that they had some very deep cuts?—A. Yes, they had some big cuts.

Q. I believe there was one cut there, a long cut previous to the tunnelling, that was upwards of 80 feet?—A. I would not like to say, it might have been. There were some big cuts.

Q. And these very deep cuts will account for a certain amount of overbreaks that you would not expect in the shallower cuts?—A. There would probably be more in deep cuts than there would be in shallower.

Q. You tell us now that you have been five or six times on this district 'F,' but you are not able to give——A. If you are referring to that portion of district 'F,' if you are speaking now of simply between Rennie and Superior Junction, I may have been there four times, but I am not positive. When you refer to district 'F,' I was on the prairie section several times, but I was not on the other.

By Mr. Clarke:

Q. Does this overbreak refer to clay embankments as well as rock?—A. It is rock. The overbreak referred to here is all rock.

Q. The slope is greater than ¼ to 1 in clay?—A. It is 1½ to 1 in clay and ¼ to 1 in rock.

By Mr. Smith:

Q. When you say 'this portion of F,' that is the whole portion of 'F' you objected to, that you found any fault with?—A. Yes, I must have been on that, I think, probably four or five times—I can tell by my diary.

Q. That would be including your visit there with the arbitrators?—A. Yes. I think it was five times including that, but I would not be positive. I would rather look up my diary and see.

By Mr. Moss:

Q. In addition to your diary have you any notes on your observations on those visits?—A. I have got some notes but they are in pieces.

Q. Of those several visits?—A. Yes.

Q. Are they in a form that you can lay your hands on them?—A. On part of them I can. I don't know whether I can lay my hands on them all.

By Mr. Smith:

Q. Well at all events you went there we will say four times?—A. I won't be positive, a number of times.

Q. But you will tell us after you have looked at your diary?—A. Yes.

Q. On your visits you observed the way the work was proceeding?—A. Yes.

Q. You observed the way the blasting was done and the way the classification was made generally?—A. Yes.

Q. Did you make any objection?—A. I did.

Q. To any of the engineers?—A. I did.

Q. To whom, Mr. Lumsden?—A. The district you are referring to now is 'F'?

Q. Yes?—A. I remember making objection to some work at the very end of a section in District 'F,' the very end of it, McArthur's.

Q. To whom?—A. To Mr. Poulin. I think he was the district engineer.

By Mr. Moss:

Q. When was that Mr. Lumsden?—A. That was in, I think, June, 1908.

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By Mr. Smith:

Q. Was that your first visit there?—A. It was my first visit to the extreme easterly end.

Q. And can you recall what you said to Mr. Poulin?—A. I cannot recall the conversation.

Q. You know what it was you objected to?—A. I was objecting—there was one cut, the very first cut I was objecting to, there was too much rock returned in it.

By Mr. Clarke:

Q. Too much solid rock?—A. Too much solid rock.

By Mr. Clarke:

Q. Can you not tell us about what you found or what your observations led you to conclude?—A. I think I can bring my note book for that, I think I can produce that.

Q. At all events you tell us that you complained to Mr. Poulin that too much solid rock had been returned to one cut?—A. Yes at that cut. I only saw one cut the first time I was there.

Q. Do you remember what Mr. Poulin said?—A. I think Mr. Poulin had only been through it once himself. I remember some conversation or allusion in which he said——

Q. Was that the same as had been classified under Major Hodgins?—A. Yes, I think most of it had been done under Major Hodgins.

Q. So that you were discussing work which had been done by somebody who had ceased altogether to be on the construction?—A. But the same resident engineer was on the road, the man who did the first classification of it.

Q. How did you follow the matter up? Did you drop the matter there?—A. No.

Q. You did not follow it up at all?—A. That work had been done most of it before I made my classification.

Q. So you simply made an observation to Mr. Poulin of what had been done by his predecessor or under his predecessor?—A. And called his——I can't remember the conversation to Mr. Poulin, but I know I called his attention to it.

Q. Well on the subsequent visit in District 'F' did you find any fault with the work?—A. I think I mentioned, I talked about overbreak.

Q. To whom?—A. Mr. Poulin.

Q. Can't you get something more definite, Mr. Lumsden, and not say you think you spoke to him about it? On an important matter like that surely you can tell us what you objected to?—A. I can't remember speaking about individual places, but generally about overbreak and not allowing excessive overbreak.

Q. Cannot you tell us what action you took? What did you say to Mr. Poulin, what did you tell him to do?—A. I can't remember what I told him to do except not to allow excessive overbreak.

Q. Did you point out any particular place to him?—A. That is what I say, I can't give you particular places and consequently I don't want to——

Q. On your subsequent visits, assuming for the moment—which you will confirm when you refer to your notes—that you had been there four times—A. Yes.

Q. Did you take any definite action with respect to the classification of overbreak, or to any of these things that form the subject of your difference of opinion with the other engineers?—A. I am satisfied that I talked to them about overbreak.

Q. Well, you are satisfied you talked to them. Did you ever write any instructions to them, did you ever write complaining of their reports, did you ever take any steps as chief engineer to bring them to their proper senses if they were going wrong?—A. I kept forwarding them the complaints of the Grand Trunk Pacific to investigate.

Q. That was pretty late, wasn't it?—A. Well, that began——

Q. That was in September, 1907?—A. 1907, there was not much work done there before 1906.

Q. They had been a year at work?—A. Very little work, comparatively speaking, was done in the first year, except on the prairie work.

Q. They began working in June, 1906, didn't they?—A. I think so, about that.

Q. But they had been fifteen months at work before there were any complaints at all from the Grand Trunk Pacific?—A. They may have been fifteen months before complaint from the Grand Trunk Pacific.

Q. What about your visits to District B?—A. To the portion of B referred to? I think I was only there twice before the——

Q. Before the arbitration?—A. Before the arbitration.

Q. The work on District B began about the same time, in June, 1906?—A. I think so.

Q. And I think you told us that your first visit there was about thirteen months later?—A. I think it was in June or July, 1907.

Q. Yes, that is my information, and then you visited it once more before the arbitration?—A. Yes.

Q. Now on the occasions of those two visits did you take the subject up with your engineers as to classification?—A. I certainly spoke to them about classification on the second visit.

Q. Well, on the first?—A. On the first I do not recollect whether I did or not, I do not remember talking much——

Q. You also visited in July, or about July, 1908, about 150 miles of District B on the south shore?—A. I went over considerable of it, yes.

Q. About 150 miles, I am told?—A. I do not know the distance, I went over considerable of the work on the south side.

Q. Did you find any fault with the classification of the 150 miles?—A. I would not agree with the Grand Trunk people, nor would I agree with my own engineers in certain cases, but I did not make that statement to the Grand Trunk Pacific people that I disagreed with my own engineers.

Q. Didn't you tell your own men, if not in absolute terms, did you not practically tell them you agreed with that classification?—A. I said I would not agree with the Grand Trunk engineers, but I expected when the arbitration came on they would be prepared to show all the measurements they claimed they had, at that time they did not have all the cross-sections and in connection with the difference between common excavation and loose rock, cemented material, I remember one part distinctly was that I discussed the matter with some engineers of never having seen six horses on a plough.

Q. I suppose it would be pretty difficult to get six horses on a plough in some of that work?—A. Some parts of it it would, I have no doubt there were some parts where a plough was not near it.

Q. You could not use a plough with six horses on the side of a house?—A. Not comfortably.

Q. And, as a matter of fact, Mr. Lumsden, in the greater part of this work, and this applies as well to District 'F' as to District 'B,' wouldn't it be quite impracticable to use a plough with six or four horses?—A. In some parts of it it would undoubtedly, but there are large stretches on District 'B' in which they did do a lot of ploughing, from Quebec easterly; you are going off on another portion of the work now.

Q. I want my question to apply to the whole work for this reason—the whole work that is under consideration.—A. Oh, this is what is at present under consideration that you are referring to now.

Q. It is under consideration to a certain extent, as I will show you in a moment.

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Mr. MACDONALD.—Mr. Lumsden is not making any imputation against the engineers on that part.

Mr. SMITH.—The part I am discussing now is to a certain extent under consideration, because I intend to show that the classification on that 150 miles was exactly and identically the same, practically, as on District 'B.'

By Mr. Smith:

Q. My purpose in asking this question is that my instructions are that this arbitrary test of six horses and a plough while it theoretically may be practicable to ideal conditions was something that was entirely inapplicable to this character of work and to this class of country. Now I want you to tell me, as you have done very frankly, whether in your opinion that is not the case?—A. There are some parts of that country in which it would be impracticable to use horses and ploughs, but there are other parts in which not only is it practicable, but they did use horses and ploughs.

Q. But isn't it a fact that the portions upon which the experiment could be tried with a plough and six horses is very small in comparison with the rest?—A. There are very considerable portions in which it could, and where it was ploughed.

Q. Where?—A. In 'B' and 'F'—you are on the south side of the river now.

Q. How much could they have tried ploughing, 20 per cent, 30 or 40 per cent, how much?—A. I suppose 10 or 15 miles of District 'B,' or more probably.

Q. I think not.—A. Well, I do not know what there would be of 'B,' I should think there would be 10 or 15 miles of it, possibly more.

Q. That could be ploughed?—A. Yes, that could be ploughed, but without going over the map I would not say.

Q. Give me as nearly as you possibly can, Mr. Lumsden, take it subject always of course to what the committee have said, I do not want to go outside the portion that we are examining, but give me an idea for District 'B,' how many miles were there that couldn't be ploughed at all; you might separate them, say so much on the south side and so much on the north side of the river where a plough can be used.—A. You are taking the whole of District 'B' now?

Q. Yes?—A. I could not say without looking over the profile.

Q. When you speak of 10 or 15 miles what portion do you refer to?—A. I was referring to the portion that I thought you were investigating now, that is the portion from the end of the 50 miles, the northerly portion that I went over on the arbitration of District B.

Q. There might be 10 or 15 miles there that might be ploughed?—A. I think probably that portion of it could be ploughed.

Q. That is that in 100 miles or over there would be——A. I do not think there was over 100 miles in dispute there, I think it is under 100 miles.

Q. From mile 50 to mile 150?—A. I do not think we went up to 150; I do not think the stations went up to 150.

Q. Up to 149½, which is getting pretty near it?—A. Oh well——

Q. That, Mr. Lumsden, you see, is a very small proportion?—A. One-seventh of it.

Q. Eh?—A. A little less than one-seventh of it.

Q. What I am coming to is this that when you are laying down a standard to determine the classification, and you lay down this arbitrary standard with reference to ploughing material, &c., doesn't it occur to you that that is not very practicable if it is only possible on one-seventh of the ground?—A. Oh it is very hard to use that in some places. In some places it would be impossible to use the plough.

Q. That I suppose, Mr. Lumsden, is an old test that has come down through specifications based on ideal conditions, possibly from the other side?—A. I think probably it was taken from the other side somewhere.

Q. Yes I fancy where the conditions are a great deal more settled than they are here. I intended to say from the other side of the Atlantic?—A. Oh, no. They did

not come from the other side of the Atlantic. I meant from the other side of the boundary line here. From the States.

Q. From the south?—A. From the south.

Q. Where they would be much more applicable than here?—A. There are portions of this country they would be applicable enough for a lot of the contract we refer to.

Q. I suppose it would be very proper and applicable on the prairie section, but not on the rock sections?—A. Yes.

Q. Well on your subsequent visit to the portion in question when was that? Was that the La Tuque visit in September or October?—A. 1908?

Q. Oh it was in 1908?—A. Yes.

Q. What did you do with your engineers about classification then?—A. That is when this——after that occasion I made that interpretation.

Q. You are referring now to the occasion when the commissioners were there and the Grand Trunk engineers?—A. Yes.

Q. Was there not another occasion on which you visited that portion of the work? Did you not visit that portion before that?—A. I was there before that, yes.

Q. And I think, Mr. Lumsden, that was 1907? Was it not in 1907 when you were at La Tuque with the commissioners?—A. Yes, I beg your pardon it was 1907.

Q. There was only one visit before that?—A. There was only one visit before that.

Q. And on the occasion of that first visit you tell us you can't recall the fact whether you discussed the classification with them or not?—A. I can't recall it now. I remember very little of the conversation that went on there.

Q. Was there any difference between the classification on the 150 miles on the south side and the classification on the north side of the St. Lawrence?—A. I can't say as to the difference, I think there was. My recollection is that there was more rock on a large portion of the northerly portion of the La Tuque end than there was on the south.

Q. What I am coming to is this: it was not an accidental divergence from your views, it was a system was it not, and that system was carried out on both sections? The engineers differed from you in principle?—A. Yes.

Q. And I think that may apply also to 'F'—that there was not an accidental divergence here and there but a radical and systematic difference between you and them?—A. There was a difference.

Q. They followed out one system as they understood it, and they followed that out pretty consistently didn't they, whereas you entertained a different view from that which they did or the policy which they followed consistently?—A. That is what appeared to be.

Q. That is what it was. Now from the fact that you took no further action with your engineers upon the occasion of your visits to the work, would they not naturally infer that you did not disapprove of their classification?—A. I talked to them at the time personally about where I did not agree with their classification but not before the Grand Trunk engineers. I am referring to the trips I made with Mr. Woods, in 1908, one to district 'B,' the easterly portion that you refer to now south and east of the river and the others to two portions in district 'F.'

By Mr. Moss:

Q. Is that also outside this inquiry?—A. No, not in the—a portion of district 'B' is outside of the inquiry, the portion of district 'F' is inside.

By Mr. Smith:

Q. From the fact that you took no definite action whatever, would not your engineers naturally conclude that they had your approval if not your——A. Not when I told them I did not approve of it, verbally.

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Q. To how many of them did you tell that?—A. I certainly spoke to several of them including the district engineer. I am referring to district 'F' particularly now.

By Mr. Clarke:

Q. What was the result of it? Did they agree to change it, or what became of your instructions?—A. I don't know whether some changes were not made.

By the Chairman:

Q. Did you know if any changes at all were made?—A. I believe some changes were made.

Well then you simply, as I understand you to say, discussed the classification with them when you went there?—A. Yes, I remember——

Q. And told them your opinion about it?—A. Yes.

By Mr. Smith:

Q. After that meeting at La Tuque you wrote your district engineers?—A. Yes.

Q. Asking them to give their interpretation?—A. Yes.

Q. I suppose you knew previous to writing them what their interpretation was, did you not?—A. I think I had from Mr. Doucet. Mr. Doucet had verbally told me what his interpretation was. I don't think I had from the others.

Q. I want you to tell me a little about the system on which this work on 'B' and 'F' is proceeding. There are certain districts which are let to certain contractors?—A. Portions of districts.

Q. Portions of districts, yes. Now on the portion of 'F' how many contractors are there?—A. One firm.

Q. Only one firm?—A. Yes.

Q. What firm is that?—A. Macdonnell and O'Brien. No. 'F' did you say?

Q. Yes.—A. I beg your pardon, J. D. McArthur.

Q. I suppose that they sublet portions of the work?—A. Yes.

Q. That is the practice generally?—A. Yes.

Q. Do they sublet to smaller men who would not have the necessary financial credit to take a large contract?—A. I believe in some cases it was sublet three and four times.

Q. Yes.—A. That is sublet to one man, he sublets to another, and he sublets to a third.

Q. And finally you get down to a smaller contractor who may have one station?—A. Well, I don't know how small they got with some of them.

Q. They got very small did they not?—A. I don't know personally much about it.

Q. I merely want to get at what the system is according to your knowledge. You would not be brought in contact with the smaller men anyway?—A. Except sometimes I might see them on the work.

Q. That would be incidentally?—A. Yes.

Q. You would not have occasion to see them at all?—A. No.

Q. Now these smaller men were men of limited credit weren't they?—A. I can't tell you, I don't know them. The presumption is they are.

Q. The presumption is, and it is a very strong one is it not, that if a man is taking one small section, or one small station, it is because he has not the means to finance a large contract?—A. I think he would surely take more than one small station or he would not take the work at all.

Q. They get down very small I am told?—A. I can't tell you how small they get down.

Q. At all events these smaller men require to get paid very promptly don't they?—A. They ought to be.

Q. And they get paid by the principal contractor, the contractor over them, as soon as the estimates are in, don't they?—A. I cannot say, they ought to be but whether they are or not, I do not know.

Q. As a rule they are, aren't they?—A. Sometimes, occasionally they are not, sometimes there is trouble with them.

Q. As a matter of practice on this portion of District F isn't it a fact that the smaller men were paid before the larger contractors got their money at all?—A. They might have been, I personally do not know, but I think very probably they were in some cases.

Q. Now if there was any over classification it would inure probably to the benefit of the small sub-contractor, wouldn't it?—A. Yes, if the terms of his contract with the man above him were the same as our contract with the principal contractor.

Q. Of course they would not be the same quite, a man usually sublets a contract so as to give himself a small margin of profit?—A. Of course.

Q. But it may be a very small margin of profit?—A. It may be.

Q. But he would not sublet as a rule unless he got some profit?—A. Not likely.

Q. This over-classification, if it existed at all, would inure primarily and principally to the benefit of the small contractor?—A. Yes, if the small contractor had made his bargain with the principal contractor on the same classification that we gave the principal contractor.

Q. Of course he would have to take it on the same specification?—A. That is a question; he would not have to, but the probability is that he did.

Q. Did you ever in your experience hear of a contractor who had taken a contract on certain specifications and who had to carry out that contract under those specifications, did you ever hear of a contractor sub-letting to a sub-contractor on different specification?—A. I can't point out a case.

Q. Did such a thing ever occur?—A. Yes, I am satisfied that it has occurred, that is that a man sub-let a certain portion of a contract, say if it is a mixed contract of rock and loose rock and common excavation, that he sub-lets on the same specification, but bargaining that he puts in the rock and loose rock at the one price, or something of that kind, and only makes two of them. I am not talking of any case here, I do not know that has been done, but still it is quite practicable to do it, that is to let it to a lower man at a different price to do the same work at different prices on a different classification.

Q. He has got to do the same work?—A. He has to do the same work, but he does it on a different classification.

Q. Then the contractor who is sub-letting, you mean, would impose more onerous conditions on the smaller man than he was himself subject to?—A. Possibly.

Q. But you did not hear of that being done here at all?—A. No, but you started to ask me whether it was always done on the same specification; I believe what I state has been done, but I do not know where it has been done on this work.

Q. What would be the position of the contractor if he pays the sub-contractor on certain estimates based on classification, and those estimates are subsequently altered before he gets his funds? What position do you put him in then?—A. It depends upon what was done with the classification; if it is raised he would be in, if it is cut down he would be out.

Q. It is pretty sure to be cut down, isn't it?—A. Not always, but in this I daresay it would.

Q. Your district engineers were not given to raising the classification, were they?—A. I think it is, possibly it has been raised in some cases.

Q. Possibly?—A. Yes.

Q. Did you ever hear of its being done? Isn't it a fact that when there was a difference, the classification was cut down, not raised?—A. I do not recollect of cases of raising; I have known of cases where it has been raised, but whether it was raised before it appeared in the estimates or afterwards I cannot tell you.

Q. Do you remember some discussion arising about solid and loose rock under

water, and what is called 'train fill'?—A. Yes, I remember some special price being made for rock under water.

Q. But do you remember that there was a change made there two years after the sub-contractors who had done the work had been paid off?—A. 'Train fill'?

Q. Yes, and with solid and loose rock under water?—A. Oh, no, I do not recollect any change being made in train fill.

Q. Take the other item of solid and loose rock under water, do you remember that?—A. I remember distinctly some arrangement being made about solid and loose rock in foundation of bridges, or rather stream diversions at the site of bridges under water.

Q. And that was made two years after the sub-contractors had been all paid off? —A. Oh, I do not think so, not that I know of.

Q. Well, now, this brings me up to the question, knowing that these cases exist, that there were sub-contractors who would be paid immediately after the estimates went through, did it not occur to you, Mr. Lumsden, when the very first complaint was made by the Grand Trunk Pacific engineers, to go on the ground at once, take the matter up, and get it finally settled and disposed of?—A. You ask me if it occurred to me?

Q. Yes?—A. I certainly thought that they ought to be settled as soon as possible, as soon as the complaints were put in proper shape.

Q. Now here was a thing that was of the most vital importance as determining the cost of this road; why did you not, Mr. Lumsden, immediately there was a question raised as to the classification, send for Mr. Kelliher and say, 'Now we have got to get this thing straightened out at once because the payment for the road depends upon it.'—A. I endeavoured to get it settled when disputes came up, and after I had gone on a certain portion of the work with Mr. Woods, and in fact before I went on it I endeavoured to get the third arbitrator appointed so as to get the whole thing done at once; that is in place of going on ourselves and possibly agreeing on some points and disagreeing on others, that we should take the third arbitrator with us so that we could take up and settle all questions at the one time.

Q. Well, in the summer of 1907 there were complaints made by the Grand Trunk Pacific engineers, and yet for a whole year that matter seems to have been——A. The first complaints——

Q. Dragging along without definite action. Why was that?—A. The first complaints put in by the Grand Trunk Pacific engineers were general complaints, they did not specify, they were not definite complaints, they complained of over-classification and they complained of overbreak, but they did not say where it was definitely. The first definite complaints they put in were, to the best of my recollection with regard to that portion referred to in the neighbourhood of La Tuque, and that was in the autumn of 1907.

Q. If you had, when the first complaint was made, taken the matter up and insisted on its being settled, then and there, could this subsequent trouble have arisen at all?—A. As a matter of fact, the first time it came up in definite form was at the time of that La Tuque meeting which resulted in that interpretation of mine of the classification being made. Nothing could be done with it in the winter time, we could not settle it until the snow went off, and we went, as I say, over portions of District 'F' and District 'B' in the early part of June, 1908.

Q. You have raised some question about frozen material also, you have raised the question about frozen material being allowed?—A. That may be the case.

Q. Your reference to winter brings that to mind, that there was some objection about frozen material?—I have got no great objection to frozen material, not where there is only frozen material that has been paid for.

Q. You think that is——A. There may be some, but only a small amount.

Q. That is not a serious question?—A. It is not a serious question; in fact, in

the first year in the winter of 1907, in district 'F,' when the work was very far behind and talking with Major Hodgins, I believe it was, in order to push the work, agreed that if the contractors had to open up big heavy cuttings in the winter that we would allow them loose rock for the frozen material they had to remove in getting an entrance into the cuts. That was for the autumn of 1907, I think.

Q. Well, I may take it that is not a serious question?—A. The frozen material is not a very big question.

Q. And it was not that which caused you to——A. No, the frozen material I did not take——

Q. To raise any serious objection.

By Mr. Clarke:

Q. You did not base your action on that?—A. Not when it was frozen material alone.

By Mr. Smith:

Q. Now, if your engineers were not carrying out your instructions, Mr. Lumsden, and if you, instead of being Chief Engineer of the Transcontinental had been Chief Engineer of the Canadian Pacific, the Grand Trunk, the Canadian Northern or any other road, what would you have done?—A. Well, I would have dismissed them.

Q. Why did you not dismiss any engineers you differed from here?—A. Well, in the first place, I could not dismiss them without bringing them before the commissioners. The commissioners had the dismissal of them. I could have suspended them, but at that time there were no flagrant cases of disobedience.

Q. There must have been something terribly flagrant to cause you to resign your position?—A. Ah, that is when I went over the work and saw the whole of the work there was then. But in my previous visits there was nothing but what could have been very easily rectified.

Q. Though you went over the work as a whole?—A. At the time of the arbitration.

Q. With the arbitrators?—A. Yes.

Q. Why did you not dismiss the engineers then if you were satisfied they were wrong?—A. Because I knew that their opinion and the commissioners' opinion coincided more than mine did.

Q. And the Department of Justice coincided with your opinion?—A. Well, I don't see that the Department of Justice did. They did not seem to coincide with one or the other. They did not coincide with my interpretation as far as putting any limit on the size of rock in assembled rock, but that is the only thing I recollect they didn't coincide in.

Q. Is it not the case that their opinion agreed with the opinions of all the counsel whose opinions were read the other day; that their opinion agreed with the Department of Justice, and that the only opinion with which theirs did not agree was your own? Is not that the case?—A. I don't recollect the opinion of the Department of Justice. I would like to see that.

Q. The opinion of the Department of Justice was even stronger, was it not, than the others?—A. I would like you to call my attention to where it was.

Q. I will be very pleased to do so?—A. But I don't recollect it that way.

Q. Look at exhibit No. 19?—A. Yes.

Q. (Reads):

> SIR,—Referring to your letter of the 20th ultimo with which you submit correspondence with regard to the classification of excavated material and the interpretation of clauses 33, 34, 35 and 36 of the general specifications for construction of the eastern division of the National Transcontinental Railway, I have the honour to state that upon consideration of the papers submitted I see no reason to differ from the classification stated by the Chief Engineer in his letter

to the commissioners of the 16th ultimo, except as to the statement that 'rock assembled (the individual pieces of such assembled rock exceeding *one cubic foot* in size) such as in the judgment of the engineer may be the best removed by blasting,' is to be classified as solid rock excavation under clause 34. I do not understand upon what principle the Chief Engineer limits the size to pieces exceeding one cubic foot.

A. Yes. But that——he says that he agrees with me, with my interpretation, excepting as to the size of the pieces in the assembled rock.

Q. Well did not the engineers agree with your revised interpretation?—A. Did the engineers?

Q. All of them?—A. They are supposed to, yes.

Q. Eh?—A. Yes.

Q. The engineers were not differing from you on your interpretation when you laid it down?—A. Well they never said anything as to my interpretation, whether they agreed with it or not.

Q. Well at that meeting on the 29th of January, 1908, in Ottawa, is it not a fact that the engineers there stated to you their entire concurrence with your amended interpretation?—A. They may have. That meeting——I remember there was a meeting but the details I don't remember anything of.

Q. Did not the commissioners expressly approve——A. Yes they approved.

Q. Of your interpretation?—A. They did.

Q. Mr. Lumsden, may I ask you to explain more fully your answer when you say that you chose the course of resigning rather than of dismissing the engineeers with whom you differed, because the opinion of the commissioners accorded better with their opinion than with yours?—A. It did in 1908, in 1907 rather. They sided with the engineers and contractors against me.

Q. But, Mr. Lumsden, when you say 'sided,' I asked you before and you admitted they took no action whatever?—A. But they said they sided with them. They did in their letter. They said that they did, that they would have so ruled.

Q. In what letter did they say that?—A. In the letter to the Minister of Justice. I think it was from the secretary.

Q. That was not a letter to the engineers?—A. Oh, no.

Q. They never presumed to make any ruling?—A. Oh, no, it was not to the engineers, the engineers had nothing to do with it.

Q. You told us very frankly that the commissioners had never interfered in the matter of your engineers in any way?—A. They didn't interfere, no.

Q. No?—A. But I don't think that was just to me or my control of the engineers, their doing what they did.

Q. Writing to the Department of Justice?—A. No, before the engineers siding with their opinion.

Q. But we were talking first of all about the letter?—A. Yes.

Q. You gave the fact of their writing a letter to the Department of Justice as impairing your control over the engineers?—A. Because it all appears in the report of the Hodgins' investigation.

Q. As a matter of fact, what the commissioners did was to write to the Minister of Railways inclosing your letter, wasn't it?—A. Yes, and inclosing a lot more documents besides my letter; inclosing all these, I think, inclosing all the opinions of counsel and the different interpretations of the engineers.

Q. Well, you say now that because the commissioners held a certain opinion in 1907, that that fact influenced you in choosing to resign rather than dismiss your engineers?—A. Well, there were so many engineers, and I was alone—I felt at least I might say here, to make a long story short, that I have always regretted I did not resign then, I ought to have done it, and I feel so now, that I ought to have resigned in January, 1908.

By Mr. Macdonald:

Q. Before you issued that amended interpretation?—A. Yes, before I made any amendment to my interpretation at all.

By Mr. Smith:

Q. If you had resigned then, in 1907, would it be possible for you to tell us upon what you would then have based your resignation—A. Simply because I felt I was not in accord with the commissioners and the engineers, if I had resigned then.

Q. You would not surely have considered that as a ground of resignation? If you had been upon any other railway would the fact of disagreement in opinion from your engineers have caused you to resign?—A. I would not think so much of difference of opinion with the engineers, as I would with the company for whom I was working.

Q. But you have told us, Mr. Lumsden, that when the question of classification arose the commissioners referred it to you and told you, you had full authority and full control in the matters of classification; that they never interfered between you and your engineers; surely that all indicated confidence enough in you to have made you stand by them.—A. They stated in their letter in the early part of the winter of 1907-8, that letter I referred to sending those documents to the Minister of Justice, they stated that they agreed with the—that if it hadn't been that I was appointed by the government, they would have ruled in accordance——

Q. With the opinions expressed?—A. Of the other engineers.

Q. And of counsel?—A. And of counsel.

Mr. CLARKE.—What is that letter?

By Mr. Smith:

Q. Perhaps we had better put that in. Mr. Lumsden, will you look at page 157 of the evidence?—A. Yes.

Q. And see if that is the letter you refer to (Exhibit No. 18).—A. Well, that is one, but that is not the one, I don't think.

Mr. CLARKE.—There is nothing in that letter, that does not express any opinion. —A. That is not the letter.

By Mr. Smith:

Q. Look at Exhibit No. 15, page 154?—A. Yes, I have that letter.

Q. Is that the letter you refer to, Mr. Lumsden?—A. Yes, that is the letter. (Reads):

> The commissioners' interpretation of paragraph 34 of the General Specifications for Construction agrees with that of the district engineers for districts 'B,' 'C' and 'F,' and originally, they would have so ruled.

Q. But go on?—A. (Reads):

> But Mr. Lumsden, as an appointee of the government, has requested that the government give their ruling as to the interpretation of clauses 33, 34, 35 and 36 of the General Specifications for Construction, and the commissioners herewith submit the whole matter for such ruling.

I do not see where I ever asked that they give their ruling; I asked that the correspondence be submitted to the government.

Q. But, Mr. Lumsden, it must be submitted for some purpose.—A. For the purpose that they would know there was a difference between me and the engineers with regard to the classification.

Q. What was there in that disrespectful to you in any way, Mr. Lumsden?—A. I did not say there was anything disrespectful, they had a perfect right to disagree with me if they liked to, but it did not assist me in controlling the engineering staff.

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By Mr. Macdonald:

Q. Why didn't you write to the government yourself and state your grievance at the time, Mr. Lumsden?—A. That is what I said, I regret that I did not get out then.

Q. That is you regret you did not write them?—A. Yes.

By Mr. Smith:

Q. I am right then in understanding you to say you regret now you did not resign when this letter of the 23rd of November, 1907, was written to the Minister of Railways by the commissioners?—A. Well, about that period.

Q. And as a result of this letter?—A. I am not sure altogether as a result of that letter, but I say I found myself not agreeing with the commissioners and with my own engineers with regard to that.

Q. If you had made up your mind to resign instead of fighting the matter out with your engineers in the ordinary way, did you not consider their position, their professional position at all in the manner of your resignation, Mr. Lumsden?—A. You are referring to my resignation in July last?

Q. Yes?—A. Well, I do not think it affects them, I do not see that it affects them.

Q. You think it does not affect them?—A. I beg pardon, I misunderstood what you meant.

Q. You make a reference, Mr. Lumsden, to——A. Yes.

Q. A difference of opinion as to classification, &c., and then you state that having lost confidence in your engineering staff?—A. Yes.

Q. What would nine people out of ten understand by that, Mr. Lumsden?—A. Well, of course there might be something. Not what you say, but there might be something which would reflect upon them possibly?

Q. What would be the character of the reflection?—A. Well, I have explained that as well as I can in my interpretation in my memorandum that I put in at the commencement of this inquiry.

Q. But, Mr. Lumsden, here were you occupying the highest position as engineer in connection with this national work involving the expenditure of enormous sums of money, and you hand your resignation to the government declaring that you have lost confidence in your staff?—A. Yes.

Q. What would nineteen out of twenty people understand? Would it not be understood by every one who reads of your resignation, by every member of parliament, that you were satisfied that there had been some wrong-doing, some swindling?—A. No, I don't know what interpretation would have been taken out of it.

Q. Would not that interpretation be made by everybody?—A. I won't say what would or would not be. Very likely it would be in some cases by some people.

Q. Would it not by the majority of people, Mr. Lumsden?—A. Well, I can't say what they would take it as.

By the Chairman:

Q. You did not have it in your mind?—A. I had it in my mind just as I placed it before you now, that they were not carrying out the classification according to my views and my instructions—according to my views, and the interpretation of the contract according to my views.

By Mr. Smith:

Q. Well, it would have saved these gentlemen a great aspersion upon their professional standing, and more than that their character for integrity, as engineers if you had stated in your letter that it was a difference of opinion?—A. Well, I daresay.

Q. Between the engineers?—A. If I had to write that letter over again I would not have made any complaint at all rather than have all this—I ought to have simply

resigned and done nothing more. But I thought I was in duty bound to give my reason for my resignation, and I endeavoured to do so.

By the Chairman:

Q. Perhaps instead of saying you had lost confidence in the engineers you probably would say now that you simply disagreed with them and preferred to go?—A. Yes.

Q. That is probably what you would do——?—A. I might have used some other—

Q. If you had to do it over again?—A. I might have used some other term.

By Mr. Clarke:

Q. Were you influenced by the disagreement of the lawyers and of the Deputy Minister of Justice with your interpretation? Had that anything to do with it?—A. Oh, no. I didn't—I can't say that had anything to do with it. Owing to the fact that opinions of counsel were given to contractors, I didn't take particular—make any particular point of that.

Q. Well, I gather the fact that your original interpretation was not adopted was the reason you felt you should have resigned in the first place?—A. No, no.

Q. Why should you have resigned at the time, then?—A. Because I was not in accord with the commissioners and the great number of engineers.

By Mr. Moss:

Q. That was superseded by your amended instructions?—A. Yes. But I am talking of before making that. That was the time I ought to have resigned.

By Mr. Clarke:

Q. That is what I want to get. Was the opinion of the Justice Department in accord with the position which the district engineers had taken?—A. The opinion of the Justice Department confirms my interpretation of the specification of those—with the limiting of the size of the rock that is to be classified as assembled rock.

Q. What further difference was there between you and the engineers?—A. Well our difference originally was classifying all masses of cemented material without any reference to rock at all. At least that is what I understand by it. Mr. Doucet's interpretation will explain that better than I can. It is in here (pointing to printed proceedings) that was given October, 1907.

Q. What kind of masses would those be?—A. Well they are masses of cemented material not necessarily rock, not necessarily composed rock.

Q. What else could it be? I don't know the formation?—A. It might be clay, it might be gravel.

Q. Well was it claimed if it were clay it would go under the heading of solid rock excavation?—A. I would have to read Mr. Doucet's——

Q. That is what I have been trying to get in my mind, that is just what the difference between you was at La Tuque in 1907?—A. Yes.

Q. There was one in regard to the size of the stone?—A. That the size of the stone did not come up——

Q. Well?—A. That was brought up by my first interpretation. That was sent in in January.

Q. You say now they are classifying other cemented material or clay as solid rock excavation?—A. Under the heading of the word 'masses.' If it were a mass of——

Q. You are not sure whether or not they did claim that clay came under that heading?—A. I don't know—without referring to Mr. Doucet's interpretation I cannot tell exactly the wording of that. It is in here (pointing to the printed proceedings.)

Q. Was it claimed by him that gravel in the ordinary sense would come under that heading?—A. I don't think so.

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Q. You have not stated anything yet with respect to what you differed in?—A. In masses of clay—without looking up that I——

Q. You are not sure about that?—A. Without referring to this, I can not.

Q. I don't know what you are referring to. I would like to see what the claim was in respect to which you differed. Is it in some letter written by Mr. Doucet?—A. It is to be found on page 232 of the evidence, Exhibit No. 42, dated 26th October, 1907.

(Reads):

All masses of small boulders and cemented material——

Q. Which were best removed by the use of explosives?—A. Yes.

Q. Then what was your objection to that part of that letter?—A. My objection was that the use of—that unless there was a large proportion of rock in it it should not be classified, and that cemented together it should not be classified as solid rock.

Q. The words 'cemented material' are the words you are objecting to?—A. Cemented material.

By Mr. Moss:

Q. Originally you contended, as I understand, that no cemented material no matter how many boulders there were in it, should be returned as solid rock?—A. That is what I contended. It must be solid rock over a yard, stone over a yard. That is as my original contention.

Q. You amended your contention by saying it must be assembled rock which you defined by your———A. After we took in assembled rock.

Q. You took in assembled rock, whatever that means. Then the whole question really comes down to what was the meaning of your phrase 'assembled rock.'—A. That is the principle.

Q. That is the real difference between you and your engineers?—A. As far as rock is concerned.

Q. Well, that is the only question in which you could possibly suggest that the Commissioners were agreeing with your engineers, as between you and the engineers?—A. Yes.

Q. That is the only question to which that suggestion would be at all applicable, would it not?—A. Yes. It was all brought up in connection with that meeting at which those——

By Mr. Smith:

Q. Mr. Lumsden, in the letter of October 30, 1907, which you wrote to the Commissioners——?—A. Yes, Exhibit No. 13, page 109.

Q. This was in reference to the interview at La Tuque?—A. Yes.

Q. And this is the letter which you have addressed to the Commissioners?

Q. This letter was addressed to the Commissioners immediately after the interview at La Tuque?—A. Yes.

Q. Now, you did not complain to them there in any way?—A. No, I did not.

Q. Of their differing from you in any way whatever?—A. No, I did not complain there.

Q. As a matter of fact, did they do anything at all in that car but simply read over sections 34 and 35 with you and express their views in conversation to you?—A. Not to me alone, but to all the other engineers and the contractors.

By Mr. Moss:

Q. And the Grand Trunk men were there?—A. Yes.

By Mr. Smith:

Q. After that, when you made your revised interpretation, the Commissioners formally approved of it in writing?—A. Yes.

Q. Did they ever after that deviate in any way from the approval of your interpretation which they had given?—A. Not that I know of.

Q. So that you could not have had any feeling that the Commissioners were not backing you up after they approved of your interpretation, subsequent to that?—A. But what I felt was at this time, at the time of that meeting in October and from that on——

Q. But subsequently to that they wrote their letters approving——?—A. I know they did.

Q. Of your interpretation?—A. They did.

Q. And even then they did not decide anything or assume to decide anything?—A. They did not.

Q. They simply backed you up as their Chief Engineer?—A. Yes.

Further examination of Mr. Lumsden adjourned.

THURSDAY, March 31, 1910.

The committee met at eleven o'clock, a.m., Mr. Geoffrion in the chair.

The examination of Hugh D. Lumsden, continued.

By Mr. Smith, K.C.:

Q. Mr. Lumsden, at the risk of repeating, I want to ask you a question or two, that I omitted to ask you before. When the Grand Trunk Pacific people first objected to the classification in 1907, did you have any interviews or consultations with Mr. Woods, other than those you have already referred to in your evidence?—A. Now, I cannot answer that immediately. I had seen Mr. Woods frequently, and there may have been some conversation, very possibly there might have been, I do not call to mind, at the present moment though any.

Q. Did you have any special conference with him to determine the amount of money involved in the question of over classification?—A. I remember something in connection with the amount of money involved. I remember something—I think there was some correspondence, about the amount of money involved up to a certain date.

Q. Could you give us the date?—A. No, I cannot give you that date.

Q. Are you able to refer us to the correspondence?—A. I am under the impression that one of those letters in the Hodgins' inquiry referred to it, I am not sure, I saw it somewhere in the letters.

Q. Do you remember yourself making any suggestion as to the amount of money involved?—A. I do not recollect it.

Q. Do you remember making any offer to Mr. Woods, to allow a sum of $100,000 and to deduct that amount from the contractors?—A. No, I don't recollect that.

Q. Just as a lump sum?—A. I don't recollect that—a hundred thousand dollars?

Q. Yes?—A. I have no recollection of it.

Q. Do you remember an occasion when you met Mr. Woods, in company with Mr. Armstrong, Mr. Grant, Mr. Huestis and Mr. Doucet, in Mr. Doucet's office? This was previous to your going to La Tuque.—A. I remember meeting—I think they were all there in Mr. Doucet's office, I can't say the date, whether it was before or after going to La Tuque.

Q. Upon that occasion, didn't you suggest to Mr. Woods, 'I will arrange this whole matter, I will deduct $100,000 from the contractors?'—A. I do not recollect that at all.

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Q. Upon that same occasion do you remember discussing with Mr. Woods the question of the classification of indurated clay?—A. I can't recollect the discussion, but I remember—whether it was at that time or some other time—Mr. Woods made the statement about having seen indurated clay as hard as rock, or something to that effect; whether it was at that time or some other time I cannot say.

Q. Upon that occasion, didn't Mr. Woods go further than that, and say to you, that he himself had been accustomed to classify indurated clay as rock?—A. I do not recollect that—I do not recollect that.

Q. You do recollect his saying that——?—A. I do not say on that occasion, for I do not recollect the exact occasion that he said it, but I recall Mr. Woods at one time saying that he had seen indurated clay as hard as rock.

Q. As hard as rock?—A. Or something like that.

Q. You are not able to tell us——?—A. I can't tell you the date, whether it was the time you refer to or not.

Q. You can't remember the circumstances that led him to say that?—A. No, I do not remember what led up to that.

Q. It was naturally in connection with the discussion of classification, wasn't it, it must have been?—A. Probably it would be.

Q. You are not able to tell us whether he didn't go further and say that he himself had either seen it classified as solid rock, or that he himself had been accustomed to classify it as solid rock?—A. I do not recollect his stating that.

By the Chairman:

Q. What was his object in saying that he had seen indurated clay as hard as rock?—A. I can't say what his object was at the time.

Q. If it were as hard as rock, it must be, I suppose, that he meant it could be classified as rock?—A. I can't say what he meant now.

By Mr. Smith:

Q. He was the principal executive engineer for the Grand Trunk Pacific, wasn't he?—A. He was the assistant chief engineer.

Q. And he did most of the work?—A. He did most of the work in connection with our work.

Q. His reference to indurated clay would naturally arise with respect to classification, wouldn't it?—A. I should think so.

Q. Well now, the Chairman has asked the question, what would be the natural inference that you as an engineer, would draw from such a statement as that made by Mr. Woods?—A. I can't say what Mr. Woods meant by it.

Q. But what would you understand by it, that if it is as hard as rock?—A. What I would understand is that he might have seen clay that was baked as hard like brick.

Q. And he would treat it as rock?—A. I can't say how he would treat it.

Q. Did you, on the occasion of your visit to La Tuque, make any notes, upon which to figure the amount that was actually in controversy?—A. I do not think so—which visit to La Tuque do you refer to?

Q. I am referring now to the visit in 1907.—A. In October, 1907?

Q. Yes, did you make any notes then?—A. I made no notes of anything that would lead me to make out figures for anything.

Q. Then you visited La Tuque again in 1908, in August?—A. I haven't anything in August, 1908; I do not think I was there.

Q. I might just refresh your memory, you went there to locate the yard in August? 1908.—A. In August, 1908?

Q. Yes.—A. I haven't got a note of that here, I will have to look it up. I have no note of two visits in 1907.

Q. Yes. Upon either of those occasions, on the occasion of the two visits in 1907, did you make any note then at all, in order to determine if possible?—A. I

don't think I made any notes as to the determination of quantities. I may have made some notes, but I have not been able to lay my hand on the notes regarding what I thought of the work.

Q. Did you have——A. What date was it in August?

Q. Did you have any discussion with Mr. Woods in respect to the slopes in the case of classified material?—A. The slopes?

Q. Yes.—A. I can't recall the discussion, but it is quite possible I may have had one, though.

Q. Did Mr. Woods draw your attention to the question of slopes in letters in 1907?—A. He may have, I am not positive, I think it is quite possible he did.

Q. What are your own views as to slopes in the case of classified material? We will leave out the question first of all of ledge rock; take assembled rock, what are your own views as to the slopes?—A. It would depend entirely upon the material what slope it would eventually stand at.

Q. You, of course, would not contend that everything that ought properly be classified as solid rock would necessarily have a slope of ¼ to 1?—A. No, not under my interpretation of that solid rock clause.

Q. But previous to your interpretation you would?—A. Yes, if it were solid rock it ought to stand at approximately ¼ to 1.

Q. But you have covered the whole ground now by saying that that would depend upon the material?—A. Yes.

Q. And that would necessarily be left to the judgment of the engineer in charge?—A. Well, I presume so.

Q. He would determine, from the boulders that remained and so on, what was the safe slope to leave it at, wouldn't he?—A. Yes, he would have to.

Q. Did you give the engineers any instructions regarding the slopes after this matter had been drawn to your attention by Mr. Woods?—A. I don't recollect doing so.

Q. Any attempt to leave slopes with assembled rock and boulders exposed to fall at such a slope as ¼ to 1 would be attended by very great danger, wouldn't it?—A. Oh more or less of it would be pretty sure to come down.

Q. May I just refresh your memory for a few moments with respect to the Hodgins' inquiry. Major Hodgins was dismissed by you?—A. Yes, under the Commissioners' instructions.

Q. Upon your recommendation?—A. Yes, I recommended that we should make a change.

Q. And the charges made by Major Hodgins, which were investigated by a parliamentary committee were made immediately after his dismissal by you?—A. Within three or four months.

Q. And I suppose you have no doubt in your mind that those charges were made as a consequence of his dismissal by you?—A. I can't say what his idea of it was.

Q. Have you any doubt in your mind that the charges were made—?—A. I can't say what his reasons for making those charges were.

Q. Well his charges related largely to the question of classification didn't they?—A. Yes. I don't recollect myself positively what his charges were.

Q. I suppose you remember a communication published in the newspaper called the '*Colonist*.'—A. It is set out in that.

Q. Yes.—A. I don't think I have ever read it all.

Q. Well, you would naturally be the most interested, from a professional point of view, in the outcome of that inquiry wouldn't you?—A. Well, I was interested in a way.

Q. Yes, you were as the chief engineer, naturally. And any charge with respect to classification upon your work would naturally come under your responsibility, would be of the greatest possible professional interest to yourself, would it not?—A. Yes, I suppose it would.

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Q. Well, I suppose you took some interest in that inquiry did you not and followed it out?—A. I didn't follow it personally.

Q. Will you please look at page 228 of the report of the proceedings of the Hodgins' Inquiry, a little above the middle of the page (Reads.)

By Mr. Murphy:

Q. Did you have any other conversation, such as you allege, with any other commissioner about the same subject?—A. About going to Quebec?

Q. No.—A. With reference to Quebec?

Q. No.—A. Or the Quebec classification?

Q. No, with reference to your statement in the *Colonist* that the Commissioners wanted you to change your ideas based on a good many years' experience on construction, and to allow the Quebec classification; I want to know what commissioners you had conversations with who asked you to change your ideas. You have told us that conversation about Mr. Young.—A. I did not put in that they asked me to change the classification, but that they wanted me.

Q. 'They wanted me to change my ideas,' who wanted you?—A. Mr. Young. And so on. Then again (Reads).

Q. Who are the others?—A. Mr. Reid, he suggested that I should copy Doucet. Mr. Reid and Mr. Young were the only two Commissioners who made any reference to copying Mr. Doucet or working on the Quebec data and Mr. Grant suggested it.

Q. Just a moment, you say, 'The root of all the trouble between the Commissioners and myself was over classification, they wanted me to change my ideas, based on a good many years' experience on construction,' who are they?

Q. Now, you observe that the whole question in this Hodgins' investigation was a question relating to classification?—A. Yes, so it appears.

Q. You notice the same on page 230 of the Hodgins' evidence. (Reads.)

Q. And that is what, as well as you remember?—A. He specially made reference to the Quebec work that was the way Mr. Young put it, and I said it was better to leave that alone. He said, 'you had better come down and see, or come down and see,' I do not know which way he put it. But anyway to see for myself. I said, 'If Mr. Doucet was up here he would do the same as I am doing, and if I were in Quebec I would do the same as Doucet did, there is only one way to classify, and we are both working on the same specifications.

Q. There was a question or suggestion finally from Major Hodgins' evidence that he should adopt the same standard as obtained in the Quebec specification. Do you recall that?—A. I remember some talk, it was talked of.

Q. Then again at pages 356 and 357 of the Hodgins' evidence there is some reference to your interpretation of January, 1908. (Reads.)

And the diagram he attaches to that letter.

Q. From which you have been quoting?—A. Rock in mass of over one cubic yard, assembled rock, which, in the judgment of the engineer, may be best removed by blasting—the diagram shows rock of all sizes; they are classed together. Mr. Hodgins: Then there is a different opinion of the 16th of December.

A. What page is that?

Q. Page 356, I am just reading now about the middle of the page.—A. Oh, yes, I see.

Q. (Reads).

Mr. Hodgins: Then there is a different opinion of the 16th December.—A. Yes, he changes his opinion of assembled rock and he doesn't give the exact size. He there referred to youself, did he not?—A. Yes.

Q. Major Hodgins says there: 'Yes, he changes his opinion of assembled rock and he doesn't give the exact size?'—A. Yes.

Q. That is yourself he refers to?—A. Yes. I presume so.

By Mr. Lennox:

Q. He omits the question of size?—A. He has really shirked the question of assembled rock.

A. Yes.

Q. That is Major Hodgins' opinion?—A. Yes.

Q. Then it goes on:

By Mr. Murphy:

Q. He defines that does he not, Major?—A. He defines it: the Deputy Minister of Justice corrected him, and he——

Q. It was overlooked in that letter of January 9, and referred to later on? —A. The trouble is here, he does not say what rock assembled is; in his opinion, before this, he said what rock assembled was to be. Have you got it here?

Q. It is all there, I think.—A. That would be the crux of the whole thing. Mr. Lumsden should explain what 'rock assembled' is; but I should take it that the words 'rock assembled,' that is, taking it for granted that Mr. Lumsden is right in his interpretation of the specification, he changes the interpretation he has given to his engineers, they are bound to follow it out, and, if any want a further interpretation, they should go to him. If it is plain enough, I suppose they can use their own judgment, but they are not put in any further interpretation of assembled rock, except that which is given in this diagram which reads this way: 'No. 5. Rock in masses of over one cubic yard (assembled rock), which, in the judgment of the engineer, can be best removed by blasting.' That might or might not be taken to cover the classification of that cutting.'

A. Yes.

Q. The examination proceeds, question by Mr. Murphy:

Q. But it mentions further on what size the boulders may be?—A. No.

By Mr. Lennox:

Q. How do you think it covers that; is it where it says there, as you read it, 'over one cubic yard in diameter.'—A. It does not say, 'in diameter,' but 'rock in masses,' those are the words; and this word 'masses' comes in again 'rock in masses over one cubic yard,' and then in brackets 'assembled rock,' do you see?

Q. It is pretty hard to know what he does mean.—A. Now, if the individual pieces of rock, assembled rock, are to be taken and treated separately, Mr. Lumsden should have said so, but he does not; he says 'rock in masses,' and then in brackets '(assembled rock)'; that is to say, what he means by 'rock in masses' is 'assembled rock,' and that is the point, you see. On No. 5, I think you can argue two ways. He adds down here at the foot, he shifts his own authority as official arbitrator to the shoulder of the engineer in charge, when he says:— 'To form a judgment as to whether or not it is best removed by blasting, the Chief Engineer must review the work in progress, or leave it to be decided by the engineer in charge.' The provision that the Chief Engineer must view the work in progress would mean that he would have to view it often enough to get a sufficiently intelligent idea of it to form that judgment.

Then he goes on:—

By Mr. Murphy:

Q. I think, Major, the masses to which you refer, regarding the size of the rock is referred to in the letter of the Deputy Minister of Justice of the 6th January, 1908?—A. Yes.

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Q. In which he says——A. He states the point there.

Q. He says: 'The specification speaks of rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting. If 'rock assembled' may be regarded as a mass of rock, and if it may be best removed by blasting, I do not see why, under the specification, it is material whether the individual pieces exceed or are less than one cubic foot in size?'—A. He is right.

Q. And if 'rock assembled' is not regarded as a mass, the minimum limit of size which can be classified as solid rock exceeds one cubic yard. It seems to me, however, that these questions are largely engineering questions, the solution of which depends principally upon the judgment of the engineer, having regard to the terms used in this specification.'—A. He gives you two points there and does not give anything more. He gives two points to work on.

Q. And that is adopted by the Chief Engineer in his letter of January 9, which begins, 'I have been handed by the secretary a copy of a letter from the Deputy Minister of Justice, dated the 6th instant, with respect to my interpretation of clauses 33, 34, 35 and 36 of our general specifications. After fully considering his remarks in regard to the words after 'rock assembled' the individual pieces of such assembled rock exceeding one cubic foot in size, I have concluded, in deference to his remarks, these bracketed words, might be omitted, as also the words 'not covered under clause 34' in items 1 and 2 under the heading 'loose rock.'

Then he proceeds to give his interpretation?
Now, let us read his answer to that:

Yes; well, as to the Deputy Minister's query, the Deputy Minister says, 'If 'rock assembled' may be regarded as a mass of rock, and if it may be best removed by blasting, I do not see why under the specification it is material whether the individual pieces exceed or are less than one cubic foot in size, and if 'rock assembled' is not regarded as a mass, the minimum limit of size which can be classified as solid rock exceeds one cubic yard.' The Deputy Minister says, 'If,' and Mr. Lumsden, in giving his third opinion, does not mention any size. Therefore, the engineer, I should take it, under Mr. Lumsden, has to follow Mr. Lumsden's interpretation as best he can, unless he gets a further interpretation from Mr. Lumsden.

By Mr. Hodgins:

Q. That is regardless of size?—A. Regardless of size.

What I want to ask you, Mr. Lumsden, is that this inquiry as to the Hodgins' charges proceeding from the month of April to the 25th June, 1908, that attention having been called to the difficulties that would arise on your interpretation of January, 1908, why did you not then take some steps to clear the matter up, take some steps to have an understanding with your engineers with regard to those questions that would present difficulty, particularly to the younger and less experienced engineers?—A. I know I had conversations with them from time to time, but I gave them no written instructions.

Q. You see, in this evidence I have just read over from Major Hodgins, where he, as an engineer upon oath, points out the difficulties of an engineer dealing with your interpretation of January, 1908, does'nt he?—A. He does.

Q. Well, I should have thought that?—A. I only read a great deal of this evidence within the last two months.

Q. But you could not have been indifferent to the proceedings in the Hodgins' investigation?—A. I may not have taken as much interest in it as I should have if I had known of all this trouble.

Q. What I should like to get some explanation of is this: why, when these questions were raised by Major Hodgins, why, when he discussed in detail the difficulties, and pointed out the difficulties the young engineer would meet with, be he ever so conscientious in endeavouring to follow out your interpretation, why you did not come to their assistance by——A. If I had not read——

Q. By meeting them and clearing up the whole matter, so avoiding any of this trouble.—A. If I had read all this evidence at the time, it might have attracted my attention to it, and I might have done something, but I did not.

By Mr. Chrysler:

Q. You were not present at this examination?—A. No, I was only here an hour or two, I think, on—one day during the investigation.

By Mr. Smith:

Q. Do you recall the letter of the Chairman of the Commission of the 24th August, 1908?—A. Is it in?

Q. In his letter to you of August 24, 1907, Mr. Parent says. (Reads.)

> For my part, I entirely disagree with this view. Such a policy would certainly not be conducive to the uniformity desired, and judging from our present experience there, we would very likely have as many different ways of classifying the work as there are engineers.

A. Whereabouts are you reading?

Q. I am reading the third quarter of page 220 of the printed proceedings of this committee.—A. A. Oh, yes, I see now.

Q. (Reads).

> In certain cases, the classification would be too strict, and in others not enough. And again, some engineers on their own judgment might be inclined to put under the arbitrary description of 'force account,' items which should be duly classified. This practice cannot be allowed under any circumstances, as entirely contrary to the contracts.

That, as early as August, 1907, drew your attention to the necessity of having some fixed standard, didn't it?—A. Everything was supposed to be under the specification and contract.

Q. But, Mr. Lumsden, by modifying your own views three times it is manifest that the specifications were not sufficient isn't it?—A. I——

Mr. CHRYSLER.—Is that correct, that he modified his views three times?

Mr. SMITH.—I think I am correct in that.

Mr. CHRYSLER.—I remember but twice.

The WITNESS.—The modifications were all—were made to these from October to January in one year.

By Mr. Smith:

Q. There may be a difference of opinion as to whether one view that you expressed was a modification, but there can be no question that you changed your views—A. I did.

Q. On the specifications on at least two occasions? That is to say that you entertained at least three different opinions, or expressed I should say, three different opinions, with regard to some clauses of the specifications? That is correct, is it not? —A. Yes, if you take that foot—the cutting out of that foot the last time as a change, it would make three.

Q. It would make three. And that you adopted on the suggestion of the Deputy Minister of Justice, I believe?—A. Yes.

Q. Or the Department of Justice. Well, now surely, Mr. Lumsden, if you, the Chief Engineer, and with your experience, had occasion to entertain no less than three

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different views of the same clauses of the specifications, is it not absolutely manifest that the specifications were not sufficient in themselves to guide any young and inexperienced engineer?—A. They were not so clear as they might have been.

Q. Well, wouldn't it be fair to put it a little stronger than that?—A. There was room for a difference of opinion on them. There is no question about that.

Q. When you and other leading engineers differed, and when the view which you entertained was differed from by counsel interpreting the documents as documents would be interpreted——A. Yes.

Q. It is manifest that the specifications would be a very poor guide to such engineers as would be resident engineers on the road? That is correct, is it not?—A. Well, it would be to those with very little experience, I must say.

Q. When it baffled men of the widest experience, surely you would expect to find very great variations among young engineers who were resident on the road?—A. Yes.

Q. Well then, after these difficulties had presented themselves to you, after your consultation with other prominent engineers, and after reading the opinions of numerous counsel, you arrived at your interpretation of January, 1908?—A. Yes.

Q. Now, what I want to come to is this: even after that interpretation we find Major Hodgins under oath swearing that the interpretation is an insufficient guide to engineers to classify?—A. I see by what I read to-day he does say so.

Q. He swears so, doesn't he?—A. I suppose so.

Q. That is sworn evidence under oath. What I want to get at is, why did you not, Mr. Lumsden, pursue the reasonable course of adopting some method of clearing up all this difficulty in June, 1908?—A. Well, I had an inspecting engineer who was supposed to go over and see that these things were done in accordance with my interpretation.

Q. You adopted the course of resigning in a letter couched in such terms as would destroy public confidence in the whole engineering staff?—A. No, I don't think so.

Q. When you used such terms as that you had lost confidence in all the staff that is practically what it amounted to?—A. Well, in——

Q. Then you modified it by a postscript, or rather a letter the following day, that this did not apply to the whole staff. Looking at the matter now in a fair-minded way—I know it is not possible for me to put words in your mouth or to lead you in the slightest degree—but looking at it now calmly and dispassionately, would it not have been fairer for you in view of all that has taken place—these differences of opinion and your attention on being drawn especially to the Hodgins' inquiry—would it not have been fairer to these engineers to have met them and threshed the thing out and had the thing settled, than to have used such terms as placed them all under such a charge as parliament found it immediately necessary to investigate?—A. Well, I didn't—I am sorry now I put it in the words I did that I had lost confidence. I put just the words that came to me at the time. I am sorry I put it in the words 'having lost confidence.' I felt that they—I could not agree with the classification as I found it.

By Mr. Macdonald:

Q. You now regard the expression you used as somewhat unfortunate?—A. Yes. 'Having lost confidence in them' is probably somewhat unfortunate for it reflects on them, but I did not intend it to.

By Mr. Smith:

Q. I might just trouble you with a question or two now about frozen material. There was some difference about that with Major Hodgins and some other engineers, I believe?—A. Yes.

Q. What were your views as to the classification of frozen material or whether it should be classified at all?—A. I recollect while Major Hodgins was there, I think in the autumn of 1907, when an effort was being made to get the work pushed on more

rapidly consenting that if they opened cuts during the winter months where there was frozen material at the ends of the cuttings, they should be allowed loose rock for whatever material it was that was required to be blasted out.

Q. As regards Mr. Poulin, the district engineer in F, you, of course, recommended his appointment, as you have already said, and you know the circumstances under which he was appointed?—A. Yes.

Q. And that he had to hurry the work through within a given time?—A. Yes.

Q. What was there in Mr. Poulin's conduct that led you to lose confidence in him? You mentioned his name prominently at, I think, the first or second meeting of this committee. Don't you think, under the circumstances under which he was appointed——A. I do not think he should have changed the specification.

Q. You don't think he did change them?—A. Well, not the specification; I do not see how he allowed a lot of clay which was actually ploughed and scraped to be classified as loose rock.

Q. But have you any knowledge of that as a matter of fact?—A. The only knowledge I have is what I was told on the ground—by the engineers on the ground.

Q. You have no personal knowledge of it at all?—A. No, except what I was told by the engineers on the ground, and, at certain points where it appears to have been ploughed and scraped, I asked how it was taken out, and the reply was that it was ploughed and scraped; I asked: 'How was it returned'? and the reply was that fifty per cent loose rock was allowed.

Q. Will you mention the names of those engineers?—A. I think it is in the evidence that is already in, but I can tell you in more detail, I have the details of the different points.

By Mr. Clarke:

Q. Where these engineers, the engineers that had been there at the time of the classification?—A. Yes.

Q. Were they resident engineers?—A. Resident engineers.

Q. The ones who were there at the time the classification was made?—A. In some cases they were, and in others they were not.

Q. Didn't they make the classification in the first instance?—A. Yes.

Q. How would they classify that as loose rock, when it was only ploughed without blasting?—A. I can't say how they did it—they say——

Q. That seems so manifestly wrong, I do not understand their doing it, and I would have thought you would have called for an explanation?—A. I did inquire why it was done.

Q. What answer did they give?—A. That they had instructions from Mr. Poulin.

Q. That is instructions to classify as loose rock?—A. No, no, to classify, to allow a percentage of loose rock in clay cuttings.

By Mr. Smith:

Q. If the frost was in it?—A. No, regardless of frost.

By Mr. Clarke:

Q. They said their instructions were to classify a certain proportion, fifty per cent, of that as loose rock, is that what I understand you to say?—A. Yes.

Q. I think we ought to have the names of those engineers.

By Mr. Smith:

Q. Yes, we want the names of those engineers?—A. I will have to refer to my note-book.

Q. Yes, refer to your note-book, and give us the names of those engineers.—A. (After referring to note-book.) This note that I have does not refer to what I thought it referred. I think, Mr. Poulin, in his evidence, stated that himself, about the fifty

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per cent, I notice Mr. Miller is one who the note I thought referred to, but that does not refer to that.

By Mr. Moss:

Q. You say you think Mr. Poulin stated that in his evidence; are you stating that now from what appears in this written document that was put in as evidence, or from your memory?—A. I am speaking from that document that was put in. I do not know whether you call it evidence or not.

Q. You haven't any personal recollection of it apart from that?—A. I was under the impression on reading it over that it seemed to me approximately correct, except that some words are wrong.

By Mr. Smith:

Q. That is the whole thing, there is nothing else in support of the opinion that you have just expressed now?—A. I thought this note referred to it; I will read the statement I have taken on the ground in June, 1908.

Q. If that does not refer to this statement, you might reserve them and put them in later.—A. I was going to reserve these until Mr. Moss asked me.

Q. Am I right in understanding that is the only thing upon which you have based the opinion you have now expressed about Mr. Poulin classifying clay as rock?—A. No, no, not clay as rock, clay as loose rock.

Q. Well, clay as loose rock, which is the prinipal charge, I understand you have against Mr. Poulin, is based upon Mr. Poulin's own evidence, and upon nothing else? —A. I am under the impression that the evidence of some of the other engineers refers to the same thing.

Q. Well, Mr. Lumsden, you say you are under the impression you have now stated that you lost confidence in Mr. Poulin because he had classified as loose rock what was clay?—A. I say that in Mr. Poulin's district we found classified as loose rock what had been ploughed and scraped.

Q. What had been ploughed and scraped?—A. Yes.

Q. Do you know whether he had anything to do with that classification? Whether he had given any instructions respecting it?—A. My recollection of it, solely my recollection of it, is that some of the engineers stated they had been instructed to allow fifty per cent.

Q. But you tell me now it is simply an impression you had that certain things were said by some engineers. Surely you had something more definite than that?— A. What I am troubled about is to remember the names of the engineers. I know I was told it by engineers.

By Mr. Clarke:

Q. Perhaps you remember whether on hearing that you took it up with Mr. Poulin to get an explanation of it?—A. That was the last thing, that so-called evidence of Mr. Poulin was the last thing I had seen of Mr. Poulin before I sent in my resignation, I did not take that up.

By Mr. Macdonald:

Q. You did not ask him for any explanation of it before resigning?—A. No, I came straight down from Winnipeg and went over the Quebec work, and sent in my resignation the day I returned from Quebec.

By Mr. Smith:

Q. Without taking the question up with Mr. Poulin?—A. Without taking that matter up again with Mr. Poulin as far as I remember.

Q. Would you act that way in ordinary matters Mr. Lumsden?—A. If I had been remaining on, I would certainly have taken it up.

Q. I mean, would you adopt such an extreme measure as resigning you office, and making such a sweeping charge, without taking the matter up with the engineers?—A. I resigned because there were so many things, and so many places in which I differed from them, that I came to the conclusion I could not reconcile those differences.

Q. There were so many places because you differed in system, you still adhered practically to the first views you had expressed.—A. No.

Q. Although you had in deference to other opinions expressed a contrary opinion, isn't that true?—A. No, I was not adhering to my first view, I was prepared to allow assembled rock, that was probably the only thing on which there was any difference.

Q. Well now, in the ordinary affairs of life, would you take the extreme step, such as you did there, without taking the matter up with the persons concerned?—A. I took that step anyway, and I suffered the consequence.

Q. But, forgive me for saying it, you have not suffered anything, you are not the one who has suffered?—A. If I have not suffered in being out of work, I do not know who has.

Q. These men are the men who have suffered in their professional reputations?—A. Well, as I have said, in the outset I withdraw that portion of it, so far as referring to their honesty and integrity in the matter is concerned.

Q. Will you look at the letter of May 20, 1909, sent by yourself to Mr. Macfarlane (handing document to witness).

EXHIBIT No. 59.

EN ROUTE TO FORT WILLIAM, ONT.,

OTTAWA, May 20, 1909.

A. G. MACFARLANE, Esq.,
District Engineer,
North Bay, Ont.

DEAR SIR,—In reply to yours of the 19th instant with copy of Mr. R. R. Holland's letter of the 14th inclosed, which you handed me last night. I may say that, as far as the completion of the 50 miles of the Fauquier's contract this year is concerned, it was not by instructions from me that such should be done.

The classification of material should not be based on its cost, though a record should be kept as closely as possible of the cost of handling material.

As to classification; you already have my interpretation of clauses referring to same, which distinctly states that, to be classified as rock, the material must be rock of one kind or another.

If the contractors were ordered in writing (which order should be approved by me) to proceed with certain work at a specified time, which, under ordinary circumstances, could only be classified as common excavation, but, owing to its being frozen, so as to prevent of its being ploughed and so bringing it under the heading of loose rock or cemented material the portion frozen may be so allowed. Where soft material is met with, which can be handled by ploughing or picking and shovelling, it should only be classified as common excavation.

Yours truly,
H. D. LUMSDEN.

Q. In the last paragraph of this letter you say:

If the contractors were ordered in writing (which order should be approved by me) to proceed with certain work at a specified time, which, under ordinary circumstances could only be classified as common excavation, but, owing to its being frozen, so as to prevent of its being ploughed, and so bringing it under the heading of loose rock or cemented material, the portion frozen may be so allowed.

Is that a formal instruction to the district engineer of 'F?'—A. Yes.

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Q. You lay down the principle very clearly that the time within which the contract must be fulfilled and the instructions given to the engineers are to be taken into consideration in dealing with frozen material, as to whether it should be allowed to be classified or not?—A. Well, that would depend upon whether the contractor had had reasonable time to do it before it was frozen.

Q. Yes, exactly.—A. If he neglected to do it when he might have done it, if he had time sufficiently to have done it during the summer months he should not be allowed it as frozen material.

Q. Then it would come down to that?—A. But if you pressed him to rush certain work at a time when it was frozen, when he could do it at a time when it was not frozen, I think he would be entitled to some consideration.

Q. At all events that is a fact?—A. Yes.

Q. That is the sense of this letter I have just asked you to file?—A. Yes.

Q. If the time was not sufficient to complete the contract without doing winter work?—A. Oh, I won't—I didn't mean it in that way.

Q. Well, supposing that you——A. If he had time to have done all his light work and he did not do it, then he should not be allowed for frozen material.

Q. That is stating it in another way. But supposing you give a man a contract to complete within a certain time and it is physically impossible for him to complete that contract within that time unless he works in winter——A. Oh, yes.

Q. What would you say to that?—A. Well, he should not do—the light work could be done in summer and the heavy work in winter.

Q. But suppose he has got to work both summer and winter within that time, then under the principle you have laid down in that letter would you allow him classification for frozen material?—A. I would if I forced him to go on with light work in the winter time that he may have done—which he might do in the summer following.

By Mr. Moss:

Q. All the work is done under your direction, and under the direction of the engineers.—A. It should be, yes.

Q. As to the way it is to go on?—A. Yes, that is the way it should be.

Q. This surely has nothing to do with the engineers?—A. But sometimes the contractor had not the men to put on to do the light work in the summer.

Q. If the engineer orders the contractor to take out frozen material, then the frozen material must be returned according to the Chief Engineer's system of classification, irrespective of whether the contractor is at fault in his contract or not?—A. I don't say that. If the contractor could have done the light work and it had been laid out for him and he did not do it, but held off for the winter, I dont think he should be paid for frost.

Q. Then it seems to me you are taking a good deal on the engineering staff in the way of interpreting the rights of the contractor?—A. I think if——

Q. That must be a matter surely for claim for default, in the contractor getting on with his contract?—A. I am supposing that the work has been laid out. The light work has been laid out by the engineer for the contractor to do and the contractor has not had men to do it with during the summer months when it should be done, and he waits for the winter. Then he wants to go on and be paid for frost.

Q. If you let him go on?—A. Of course the work in the meantime has got behind.

By Mr. Smith:

Q. Well, take the case of Mr. Poulin. The date of the completion of the contract, I think, had expired before he was sent there.—A. That is quite possible.

Q. And then you gave Mr. Poulin instructions to rush the work?—A. Yes.

Q. What was Mr. Poulin to do under those circumstances?—A. He was not instructed to change the specification.

Q. But why did you write the letter to Mr. Macfarlane? It was to lay down a principle, was it not?—A. I think that Mr. Macfarlane was—that was in the other district of course.

Q. But at all events it is laying down a principle with respect to classification? —A. Yes, that is if we forced him to do the work in winter.

Q. Is not that the whole question? Well, when you sent Mr. Poulin in, the date of the completion of the contract had already expired.—A. Yes.

Q. Now is it not a fact, Mr. Lumsden, that you gave Mr. Poulin instructions to rush the work?—A. Yes.

Q. Several times?—A. Yes. He was instructed to rush the work.

Q. Instructions were given him by yourself to hurry that contract through?—A. Yes.

Q. When you appointed Mr. Poulin there, or rather when you wrote especially recommending Mr. Poulin's appointment, did you not select him because you believed him to be the man most capable to rush that work through?—A. I believed he could rush the work through, certainly.

Q. And you gave him instructions to rush it through?—A. Yes.

Q. Well, what would he do when he came to frozen material? Would he say 'No, you will wait till next summer to do that?'—A. It was not the frozen material that I am objecting to.

Q. Then it will simplify matters if you are able to say with respect to Mr. Poulin's division that you don't find fault with him about the frozen material but about something else?—A. Just about the classification of clay and borrows and cuttings—allowing a percentage of loose rock in them?

By Mr. Moss:

Q. Is that the whole complaint against Mr. Poulin?—A. That is all in that connection. And then there is overbreak and in some cases there is what I would imagine to be overmeasurement of ledge rock. That is a question, but I made no measurements.

Q. Then you make no charge against Mr. Poulin in regard to frozen material? Are we to understand that?—A. Not with regard to frozen material.

Q. There is no trouble in that district in regard to frozen material?—A. Not that I know. There was never, as far as I knew of, any great amount.

Q. Nothing to criticise.

Mr. SMITH.—That clears the atmosphere of the frozen material part of it anyway. Now, I might——

Mr. CLARKE.—I thought he had said in his evidence before that he made no complaint with regard to frozen material.

Q. That eliminates the frozen material question from District F. Now, I want also to clear up the question of frozen material with regard to District B. You issued, what will we call it? A form which is known as form 4, a blue print, which I now hand to you, and put in as *Exhibit No. 60.* Will you look at the words that are struck out in lead pencil? (Blue print handed to witness.)—A. I see the words 'Frozen material.'

Q. That form is the form 4 which was sent out by you, was it?—A. I can't say; I presume it is.

Q. Now, will you look at the letter of date September 21, 1908, written by Mr. Doucet to you, which will be filed as Exhibit No. 61. (Document handed to witness) —A. Yes, I see that letter.

Q. As this letter is short, I will read it to you, Mr. Lumsden. (Reads)·

Mr. LUMSDEN.

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EXHIBIT NO. 61.

QUEBEC, September 21, 1908.

HUGH D. LUMSDEN,
Chief Engineer,
Ottawa.

DEAR SIR,—I notice on blue print sent me in connection with your circular to engineers *re* method of making out estimates, that 'frozen material' appears as a separate item. I think it would be most unwise to send out such an item to our engineers in District 'B,' as, by doing so, we would be opening the door to a whole lot of extra claims on the part of the contractors.

Please let us have your views as to this before I send out the circular.

Yours very truly,

A. E. DOUCET.

Q. Then you wrote to Mr. Doucet a letter of date September 23, the original of which I now hand you, and which will be marked as Exhibit No. 62?—A. Yes.

Q. In that letter you say (Reads):

EXHIBIT No. 62.

OTTAWA, Sept. 23, 1903.

A. E. DOUCET, Esq.,
District Engineer,
Quebec, P.Q.

DEAR SIR,—In reply to yours of the 21st instant, *re* method of making out estimates, I may say that I am obliged to you for calling my attention to the matter. This blue print, it appears, was sent to you without my knowledge, and was not sent to other districts. To the best of my knowledge, I have never seen this sheet before, and I have instructed that the words 'frozen material' shall be eliminated from it. I had read over the circular, and it seemed to me to be all right.

Yours truly,

HUGH D. LUMSDEN.

A. Yes.

Q. Now, as far as frozen material in District B is concerned, you cannot have any fault to find with Mr. Doucet?—A. I do not recollect any.

Q. After calling your attention to this?—A. Yes.

Q. So that the question of frozen material is absolutely out of all consideration with regard to District B?—A. I do not recollect personally any question of frozen material.

Q. I want to ask you another question Mr. Lumsden, about the letter of Mr. Woods to you of date October 7, 1907. We have referred to this paragraph several times.

'In fact, the specifications had been entirely ignored, and an excessive allowance made, not by reason of an error in judgment, but as I understand, by special instructions of the district engineer.'

That is Exhibit 10; you might just take this, if you like, and read it further. That is the paragraph I have marked. (Document handed to witness).—A. Yes.

Q. You have told us that Mr. Woods had withdrawn that at the meeting at La Tuque?—A. My recollection of it is that he verbally said that he would withdraw it, and I think Mr. Doucet expected to get a written withdrawal of it; I do not know if he ever got it.

Q. I want to ask you whether Mr. Woods did not promise to write a letter withdrawing it?—A. I can't say that I recollect the promise, but I recollect distinctly that Mr. Doucet expected a written withdrawal; I do not recollect whether Mr. Woods had promised at that time to send it in writing.

Q. Why do you say Mr. Doucet expected a written withdrawal?—A. Because I remember Mr. Doucet speaking to me subsequently about it.

Q. You do not recall Mr. Woods having given a promise to write a letter withdrawing it?—A. I do not—I am not sure he did.

By Mr. Moss:

Q. You do not recall whether a promise was given in your presence or not?—A. No, I don't recollect positively, but I think——

By Mr. Chrysler:

Q. Did Mr. Woods verbally withdraw it at the time?—A. My recollection of it is that he did.

By Mr. Smith:

Q. Now you have, in the statement you have filed before this committee, based your resignation to a large extent upon the statement made before the arbitrators when you went with Mr. Collingwood Schreiber and Mr. Kelliher to arbitrate certain differences as to classification?—A. Yes.

Q. These statements are found in No. 2 of the proceedings of this committee at page 93; they were allowed to be filed for purposes of reference by the committee?—A. Yes.

Q. The Transcontinental Commissioners—I am transposing the order of things a little—after you had been at work for some time with the other two arbitrators, protested against the manner in which the arbitration was proceeding, didn't they? You remember that?—A. You say that after——

Q. I say, after you had proceeded a certain distance with this arbitration with Mr. Schreiber and Mr. Kelliher?—A. Yes.

Q. The Transcontinental Commissioners made a very vigorous protest?—A. Yes.

Q. Against the arbitration?—A. Yes.

Q. You were very much displeased at their taking that step, weren't you?—A. No, I don't know that I was. I got the protest after I had sent in my resignation.

Q. Had you not received the protest previous to that?—A. No, I had sent in my resignation before I received the protest.

Q. So that their protest was not one of your reasons for resigning?—A. No.

Q. You were aware, previous to your resignation, that they did protest very seriously against the manner in which the arbitration was going on, previous to their written protest altogether?—A. I may have been. I don't recollect whether I heard of it before or not.

Q. Of course, you remember clause 7 of the statutory contract between the Transcontinental Railway Commission and the Grand Trunk Pacific, that is the clause providing for arbitration?—A. Yes.

Q. In that clause it was provided that the work should be done according to the specifications and should be subject to the joint supervision, inspection and acceptance of the Chief Engineer appointed by the government and the Chief Engineer of the company, and in the event of a difference as to the specifications, or in case the said engineers shall differ as to the work, the question in dispute shall be determined by the said engineers and a third arbitrator, to be chosen in the manner provided in paragraph 4 of this agreement'?—A. Yes.

Q. And paragraph 4, you will remember, provides (Reads):

> —'and in case the said engineers shall differ, the question shall be determined by the said engineers and a third arbitrator to be chosen by them, and in the event of their inability to agree on a third arbitrator, the Chief Justice of the Supreme Court of Canada may appoint the said third arbitrator, and the decision of the majority shall be final.'

—A. Yes.

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Q. I don't want to ask your interpretation of that, but as an engineer you understand that that arbitration would be absolutely final, conclusive and binding upon the Grand Trunk Pacific and upon the Transcontinental Railway Commissioners?—A. I would think so.

Q. Of course it is a thing there cannot be any doubt about, can there? The object and purpose of these two clauses 4 and 7 was to provide a tribunal that should finally arbitrate and determine any question of difference between the Transcontinental Railway Commissioners and the Grand Trunk Pacific?—A. Yes.

Q. So that any award which would be rendered by these arbitrators appointed in pursuance of those two sections would be absolutely binding and conclusive against the Transcontinental Railway Commissioners?—A. I presume so.

Q. And you have no doubt of it at all?—A. Well I can't say that I have any doubt of it.

Q. Then of course that was your understanding when you were appointed one of the arbitrators: that your award was to be absolutely final between the Transcontinental Railway Commissioners and the Grand Trunk Pacific?—A. Well that is the way I understood it, but as you are pointing it out to me now, I have known so many arbitrations that were not final in practically similar terms.

Q. Mr. Lumsden, you know perfectly well there was no appeal from your decision; the Transcontinental Railway Commissioners could not take the matter before the courts?—A. I don't think they could.

Q. Where there is a real difference between us let us state the difference, but where there is none, let us get on as quickly as possible. Now the award which you and Mr. Schreiber and Mr. Kelliher, the three arbitrators, would render would be conclusive against the government, would it not?—A. I would imagine so.

Q. It would fix the amount on which the rental would be paid by the Grand Trunk Pacific when it took over the road for operation?—A. I believe that was the intention.

Q. Well now, would it fix any question at all between the Transcontinental Railway Commissioners and the contractors?—A. I don't think so.

Q. That is another thing which is perfectly obvious. That is obvious, isn't it?—A. I don't think it would—I don't think it would affect the contractors.

Q. Very well now I want to get at this position: the contractor would be paid according to the progress estimates and according to the actual work which he did, wouldn't he?—A. Yes.

Q. Quite irrespective of any arbitration between the Grand Trunk Pacific and the Transcontinental Railway Commissioners? (No answer.)

Q. He would be paid for the work which he did?—A. Yes.

Mr. CHRYSLER.—Paid upon the certificate of the engineer.

By Mr. Smith:

Q. He would be paid for the work which he did, that is upon the progress estimates—which is always done—and the final estimate?—A. On the final estimate, yes. That is what I was hesitating about, because the progress estimates may be revised.

Q. Quite so, but at all events he would be paid for the work which he did which would be determined according to the contract?—A. Yes.

Q. That is to say by the progress estimates as either approved or revised by the final estimates?—A. Yes.

Q. Now supposing that the contractor differs from the Commissioners as to the amount of his work, or supposing that the estimates returned by the engineers entitled him to a certain sum, the award of the arbitrators would have nothing to do with his relations to the Transcontinental Railway Commissioners?—A. I don't think the contractor would be mixed up in it.

Q. Now, the contractor stands on his own bottom, and he is to get paid for his work as established according to the terms of the contract, that is clear?—A. Yes.

Q. Now, supposing the award of the arbitrators determining the matters in dispute between the Transcontinental Railway and the Grand Trunk Pacific were less than the amount paid to the contractors, what would be the consequence??—A. If it were less?

Q. Yes?—A. Somebody would have to pay the contractors.

Q. Supposing, for instance, that, upon an arbitration, it was decided that the classification was too great?—A. Yes.

Q. And that there was a million dollars over classified?—A. Yes.

Q. The result would be that the contractor having been paid upon the estimates, the Grand Trunk Pacific would pay rental on so much less than that actual cost, that would be the consequence, wouldn't it?—A. It looks like it.

Q. Don't say 'looks like it.' You know that that is the case?—A. I do not think that they would pay on any more.

Q. That is what they would pay on. They would not pay on any more than the result of the arbitration?—A. No.

Q. And, if the actual cost to the Transcontinental Commissioners exceeded the amount which was determined by the arbitration, the government and people of this country would have paid out so much money, on which they would not be getting any interest at all?—A. Yes.

Q. So that the Transcontinental Commissioners had the greatest possible interest in that arbitration, hadn't they?—A. Yes.

Q. I merely wanted to establish that before we come to the details of the arbitration at all, that if they did protest, that is the Transcontinental Commissioners, and if they took very vigorous action with respect to this arbitration, they had the greatest possible interest in doing their duty to the country in so doing?—A. Oh, yes.

Q. Because they might find themselves in the position of being condemned in the Exchequer Court to pay the contractors perhaps a much larger sum than the arbitrators would allow as between the Grand Trunk Pacific and themselves, the Transcontinental Commissioners——

Mr. CLARKE.—And who were the arbitrators between the contractors and the commissioners?

Mr. CHRYSLER.—The Chief Engineer; there is the right of appeal to the Exchequer Court in the contract.

Mr. CLARKE.—He is not final?

Mr. CHRYSLER.—No.

Mr. SMITH.—It says:

> That all matters of difference arising between the parties hereto upon any matter connected with or arising out of this agreement, the decision whereof is not hereby especially given to the engineer, shall be referred to the Exchequer Court of Canada.

Mr. CHRYSLER.—That refers to section 15, which says:—

> The engineer shall be the sole judge of work and material in respect of both quantity and quality, and his decision on all questions in dispute with regard to work or material shall be final.

Mr. CLARKE.—But, in respect to this classification, the judgment of Mr. Lumsden should have been final.

Mr. CHRYSLER.—I think that is probably correct.

By Mr. Smith:

Q. You, in reply to Mr. Chrysler, Mr. Lumsden, referred to the difficulties you had in getting the Grand Trunk Pacific to arbitrate these questions at all, and you have referred to some letters of Mr. Woods, and also of Mr. Kelliher, proposing various things rather than to go to the arbitration; you remember the difficulty you had in getting them to come to the arbitration?—A. Yes.

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Q. And then there was more difficulty about agreeing as to who should be the third arbitrator?—A. Yes.

Q. However, you explained to Mr. Chrysler that the arbitration was finally agreed upon, and the board was finally constituted?—A. Yes.

Q. Now, would you have some meetings, and, if so, how many, with the arbitrators, before you went out upon the ground at all?—A. I don't think so.

Q. Before you began the inspection for the purposes of arbitration did you not have some consultations to lay down the principles upon which you would proceed?—A. I can't tell you the details of it.

Q. From what common point did you start? You were going out to investigate the differences of opinion between the Grand Trunk Pacific and the Commissioners as to classification?—A. Yes.

Q. Well, what principle did you adopt before starting out?—A. Well, I say I don't think we had any meeting as arbitrators.

Q. Well, before you visited the ground at all anyway, what did you start with as a common ground, that you agreed to accept?—A. Well, I can't say.

Q. Well, I will put the question plainly. Did they accept your interpretation of January, 1908?—A. I don't recollect that those interpretations were distinctly mentioned by them.

Q. You have told us twice, I think, and the letter of Mr. Woods has been filed to the effect that Mr. Woods, acting for the Grand Trunk Pacific, accepted your interpretation of January, 1908. You had no letter from Mr. Kelliher accepting that interpretation?—A. I don't think so.

Q. Well, when you started out to arbitrate as to whether the classification was right, or was not right, whether it was too low or too high, did you adopt as your starting point your interpretation of January, 1908, or something else?—A. I was using my interpretation of 1908.

Q. You alone?—A. Well, I believe the others were.

Q. But you say you have no recollection?—A. Well, I can't say that we ever discussed—I don't remember discussing the classification separately.

Q. But you were not starting out with these two arbitrators——?A. Mr. Schreiber knew the classification, I know that; my interpretation of it.

Q. But surely you were not starting out on the road with these two arbitrators entertaining three different ideas of the standard to be adopted?—A. I don't imagine so.

Q. Well, what I want to get at is this: cannot you tax your memory to the extent of remembering whether or not your interpretation of January, 1908, was adopted as the standard?—A. I suppose it was, but I don't recollect the discussion about it.

Q. And you don't recollect the matter ever having come up at all?—A. I don't recollect it. We may have time and again discussed the specifications.

Q. You may have?—A. At different times on the work.

Q. But your telling us may have done so won't help us at all?—A. My memory does not serve me to state the particular days or dates when such things may have been discussed.

Q. Omit the dates and tell us whether you did discuss the principle or standard on which you were——?—A. You asked me whether we did before we started, before we went out, and I can't say that we did, but we certainly did at times on the work discuss the specification.

By the Chairman:

Q. Before you commenced to arbitrate had you agreed upon a standard?—A. I don't recollect before the arbitration commenced discussing the specification.

By Mr. Smith:

Q. When you began this arbitration had you each the same documents in your possession, in your hands so to speak?—A. I can't say whether we had or not.

Q. What had you in your possession when you started on this arbitration, that is relating to this arbitration?—A. Well, all I recollect having was Mr. Kelliher's letter suggesting Mr. Schreiber, and Mr. Schreiber's letter accepting the position as arbitrator.

Q. You must have had first of all the specifications?—A. Oh, I had the specifications.

Q. The contract and the specifications?—A. Yes.

Q. And I suppose the other two arbitrators must have also had them.—A. I believe so.

Q. Do you know whether they did have them?—A. I can't swear they had them, but I believe they had them.

Q. I suppose you must have had also your interpretation of January, 1908, with the blue print?—A. Yes.

Q. Now, had the other two that?—A. I am pretty sure Mr. Schreiber had and I can't be positive about—I don't remember positively seeing Mr. Kelliher with one.

Q. Then you are sure you had it, you think Mr. Schreiber had, and you don't know whether Mr. Kelliher had it?—A. I am not positive about Mr. Kelliher.

Q. Now, will you tell the committee what you were going to arbitrate upon?—A. On the matters in dispute between the Grand Trunk Pacific and ourselves.

Q. Oh, but it was not as general as that, it was not quite as general as that was it?—A. As to which they had made written complaints.

Q. Well, how much did that include?—A. It includes certain portions in districts 'B' and certain portions in district 'F.'

Q. Had you a list of the complaints? That is what I want to come at. You must have known what the limits were of your arbitration.—A. Yes. I know that I went over—in going over it I went over the whole of it without questioning whether it was in litigation, whether it was in dispute or not. That is, I took every cutting as I went along, or every embankment, or every borrow pit. I mean to say with the idea that we could afterwards cut out as to which there was no dispute and I had a record then of the whole of the work.

Q. And they went with you, I suppose?—A. Yes, and they did the same thing, I believe.

Q. You then had no actual list of the matters that you were to arbitrate upon?—A. I had a list of the stations we were to arbitrate upon.

Q. Had the others?—A. I think so.

Q. Have you got that list, or a copy of it, or where can we find it?—A. In this return here. (Pointing to Return S. Paper 42a.)

Q. That is the Return to Parliament, list to be found at page 8 thereof?—A. Yes, that is it.

Committee adjourned.

FRIDAY, April 1, 1910.

The committee met at 11 o'clock a.m., the Chairman, Mr. Geoffrion, presiding.

The examination of Mr. Lumsden resumed.

By Mr. Smith, K.C:

Q. You told us yesterday that you had no agreement or understanding with the

arbitrators as to any standard interpretation of the specifications when you began the arbitration?—A. I have no recollection of any.

Q. And I think you also said that you had not before you a list of the cuts which were in dispute?—A. Well, I am not sure of that, whether I had or had not.

Q. Well, with regard to district 'B'?—A. As far as district 'B' was concerned, I think I had, but I am referring to work in district 'F' and district 'B.'

Q. It was understood, of course, that the arbitration with regard to district 'B' was limited to the 132nd mile west of Quebec, was it not?—A. Yes, up to a certain station, somewhere about 132.

Q. One hundred and thirty-two miles west of Quebec, but you went over the whole road?—A. Not over the whole road, no. We went on to about the 150th mile. We went on one side of a stream, I forget the name of it, somewhere in the neighbourhood of 150.

Q. The arbitrators with you had nothing but the specifications with them, as far as you remember?—A. Oh, they had—I think they had the Act and one thing and another. I can't say all they had, but I am pretty sure they had the Act, a copy of the Act.

Q. I think I asked you whether you had drawn those specifications yourself. Did you answer that; do you remember?—A. I think I did. They were not actually drawn by me. They were drawn by Mr. Butler and Mr. Woods principally, but I signed them after they were drawn, and went over them.

Q. They were drawn by Mr. M. J. Butler, the late Deputy Minister of Railways?—A. Yes, he and Mr. Woods did the most of the compiling of them, I know.

Mr. CHRYSLER.—Mr. Butler was not then Deputy Minister of Railways; he was the Assistant Chief Engineer to the Transcontinental Railway Commission.

By Mr. Smith:

Q. Mr. Butler was then Assistant Chief Engineer to the Transcontinental Railway Commission, was he not?—A. Yes, he was Assistant Chief Engineer.

Q. Mr. Butler was your assistant at that time?—A. Yes.

Q. And your recollection is that it was he who drew up the specifications?—A. Well, to a great extent. He and Mr. Woods spent a great deal of time over the specification, more than I did.

Q. The question of classification must have been discussed between you and Mr. Schreiber and Mr. Kelliher before you started out on your tour of inspection?—A. I don't recollect it before we started out.

Q. You can recall no conversations you had with them together or separately?—A Oh, I may have talked with Mr. Schreiber individually about it long before that.

Q. But you have no recollection of any conversations previous?—A. Not immediately prior to our starting out on the arbitration, I don't recollect any.

Q. Well, I am asking you this question—I mean having this arbitration in view—whether you had any conversation with them to arrive at a principle or a standard interpretation?—A. I don't recollect them.

Q. What was the first thing you did toward carrying out the arbitration?—A. We went up on the work.

Q. You never had any meetings at all until you started out on the work?—A. Except on the car going up. I don't—I am not sure whether we had a meeting at Ottawa before we left, whether I saw Mr. Kelliher here. I remember once seeing Mr. Kelliher in Mr. Schreiber's office, but I think that was some time before we started out.

Q. And your official visit as arbitrators was to district 'F' first?—A. Yes.

Q. You went over the whole of district 'F,' but you saw only the portion in question?—A. Only from the junction, from the east end of McArthur's contract; we only went over in detail to a little beyond Rennie.

Q. And then you returned home?—A. Yes. We went over by train into Winnipeg, and then returned here.

Q. And then you went over the Quebec section, that is section 'B,' later on?—A. Yes.

Q. Of course, you rendered no awards?—A. No.

Q. But you completed your inspection as far as the visit to the road was concerned?—A. Well, there were many things we did not complete, or could not complete, in the way of work that had to be re-measured before we could get at any quantities.

Q. But as far as your visit to these two sections was concerned, you did not contemplate further visits, you had finished your visits?—A. I can't say that. I thought it would be necessary for one or two items to see more of them.

Q. For one or two items?—A. Some items.

Q. When did you begin your trip to district 'F'?—A. Well, I would have to look up the——

Q. You have your memorandum before you, please look it up?—A. We started on May—I have got the notes that we started May 22.

Q. 1909?—A. 1909, yes.

Q. Where did you go then?—A. We went to Port Arthur and over the Grand Trunk Pacific to the junction.

Q. That was the point you were going to begin your investigations at?—A. Yes. From the east end of the McArthur contract.

Q. And who accompanied you?—A. Mr. Schreiber, Mr. Kelliher, and we had two secretaries.

Q. Who were they?—A. Mr. Jones and Mr. Schreiber's secretary, Mr. Loftus.

Q. Who is Mr. Jones?—A. He was my secretary.

Q. On reaching the point where you were to begin your investigation, what did you do then?—A. We—I am under the impression we first met Mr. Poulin and some of the engineers. I think it was at Fort William or Port Arthur they joined us.

Q. Did you go over a portion of the road?—A. Oh, yes, we went over the portion of the road from the east end of McArthur's contract.

Q. To where?—A. To a little beyond Rennie.

Q. And how many miles was that?—A. Somewhere about one hundred and—I think 174 or something like that.

Q. And how many days were you doing that?—A. Somewhere about two weeks—somewhere about between two and three weeks, a little over two weeks, I think.

Q. Then you began on May 19?—A. The 22nd May I have got.

Q. And you reached St. Boniface on June 5?—A. June 5, yes.

Q. What did you do the first day?—A. The first day? I have to look up my notes (consults diary).

By Mr. Chrysler:

Q. Mr. Lumsden, the dates and so on were given by you before, and are to be found, I think, on pages 174 and 175 of the evidence. I think you looked at your note book when you gave that information. Perhaps if you refer to the evidence it will enable you to see the dates more quickly?—A. At pages 174 and 175?

Q. Yes. The date you are looking for is there.

Mr. SMITH.—26th of May.

The WITNESS.—On the 22nd of May we went approximately seven and a half miles over the McArthur contract. That is, we went to station 550 somewhere about 556, and we started about 166.

By Mr. Smith:

Q. How long did it take you to do that seven and a half miles?—A. Well, we were on that afterwards. We went back over portions of that the next day.

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Q. Did you walk that seven and a half miles?—A. I think we used the car.

Q. Was the steel laid there?—A. Yes.

Q. And you looked at it from the car?—A. No, we got off the car at each cutting.

Q. How long previously had those cuttings been made on that seven and a half miles?—A. Oh, some of them had been done a year and a half to two years, portions of them. Others of them were comparatively recent.

Q. How many cuts were there on that seven and a half miles?—A. I can't tell you.

Q. Have you got your notes there?—A. I could look for the particular cuts and find out.

Q. Well, look at your notes. I want to find out how many cuts you inspected there that day.

By Mr. Moss:

Q. What numbers were those, Mr. Lumsden, 155 to 5?—A. Commencing at station—the first cut was station 160 plus 40 to 186. I don't think it is in that—I don't know what time we left Lost lake in the morning.

Q. No, it does not seem to be?—A. There were about twenty.

By Mr. Smith:

Q. About twenty cuts?—A. About twenty cuts.

Q. Now, just fix from your notes the time you were examining those twenty cuts on that 22nd or 23rd day of May?—A. I can't get any time at which we started on that work, because we had come over the Grand Trunk Pacific that same day.

Q. As a matter of fact, it was only a few hours?—A. It was somewhere—I think probably six or seven hours.

Q. Altogether?—A. That is on that day. Then we were back on that the next day.

Q. But when you made the inspection was the first day?—A. No, no. We went back for the purpose of further inspecting it the next day.

Q. Then give us the whole time. How many hours were you the next day or were you any hours at all?—A. I have not got the time at which we started to go back on the Sunday morning. Sunday morning was the 23rd, and I have not got the time we started to go back, but I have got the time when we got back the following afternoon. We got back at Lost Lake at 2.15—2.30, I mean to say.

Q. So you don't know what time you started?—A. I don't know the time we started. I presume between eight and nine o'clock, but I can't be positive. I don't know what time we left Lost Lake in the morning.

Q. Now, in addition to the twenty cuts have you any notes on inspecting any borrow pits on that seven and a half miles?—A. I have got a note 'rock borrow' at 242, station 242 I think it is.

Q. On that seven and a half miles?—A. Yes.

Q. As a matter of fact, were there not more?—A. I am just looking over my notes to see whether we came across any more. Yes, I have got another borrow pit at station 521 plus 96.

Q. I beg your pardon, what is that you say?—A. I find another borrow pit at 521 plus 96.

Q. Those, of course, had to be inspected as well as the twenty cuts?—A. Well, we didn't inspect all the borrow pits. We inspected all the line cuts, but I am not sure we inspected all the borrow pits. Some of them we did, but I am not sure whether we inspected most of them or not.

Q. Were all these twenty cuts in dispute between the Grand Trunk Pacific and the Commissioners?—A. I don't think so. I can't tell from memory.

Q. Well, the arbitrators themselves inspected what was in dispute and what was not in dispute?—A. I did at any rate. I went over every cut.

Q. You were all together there I suppose?—A. Yes, I think they did too. As far as I know they did.

Q. Have you any means now, by reference to notes or otherwise, of telling this committee what time you spent on the cuts which were in dispute?—A. Oh, I can't separate the time of one from the other.

Q. Can you tell the committee what was the length of these cuts?—A. I can tell from my notes but not from memory what the length was.

Q. Can you tell the length and depth?—A. I can tell the length from my notes, I can't tell the depth.

Q. Can you tell us how many out of the twenty were in dispute?—A. No, not from memory.

Q. Well, from notes or anything?—A. No, because I have got them all here without having noted whether they were in dispute or not.

Q. Have you no means of telling us the depth of these cuts?—A. By looking at the profile.

Q. You have nothing in your notes?—A. I have nothing in my notes to tell the depth of cuts.

Q. And nothing to tell the length of them in your notes?—A. Yes, I have to tell the length of them. I have got the statements where they begin and end at.

Q. Give us an idea of the length of these cuts?—A. The first cut is from 160 plus 40 to 186 would be nearly half a mile long.

Q. The cutting itself would be nearly half a mile long?—A. Very nearly half a mile long.

Q. I want to ask you whether you have any means of separating the cuts that were in dispute from those that were not in dispute?—A. Yes. By picking them out from the notes that we had, all the disputed ones. By taking them out from here I can pick them out. I have not got them separated here.

Q. Well, this first cut you say was about half a mile long?—A. Yes.

Q. Speaking from memory could you give us any idea of the average depth of it?—A. The average depth I should think would be probably eight feet to nine feet.

Q. Eight or nine feet?—A. Nine feet. It may be more, I cannot be positive. Parts of it, the ends of it were low but probably parts of it may have been 15, 12 or 15 feet.

Q. How long would it take to make that cut, to take that material out?—A. Oh I can't tell you how long it took. It took a long time because they left it. They commenced it and then stopped it.

Q. Tell us in a general way about how long, there is nothing hinging on it.—A. I can't tell you how long it took them to take that cut out. I know I saw a lot working in it.

Q. Six weeks, a month or how long?—A. Months.

Q. How long, give us some idea?—A. Perhaps eight or ten months, I don't know how long.

Q. Now, during that eight or ten months that cutting would have to be taken out there were resident engineers on the spot?—A. Yes.

Q. You told us before that they generally inspected every day or two?—A. Yes.

Q. That they were on some part of it all the time?—A. I presume so.

Q. How long were you and your co-arbitrators inspecting that half mile cut?—A. I can't tell you the time.

Q. That is only one out of twenty?—A. That is one out of about twenty.

Q. You could not have been very long, Mr. Lumsden. How long were you there?—A. We were there at that cut twice. As I say we were there the first day and we were there the second day. The second day we took some men along with us and did some digging.

Q. Were you a quarter of an hour?—A. We were a good deal more the second day.

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Q. How much?—A. I can't tell you. I could not say as to the time.

Q. Did you take any measurements?—A. Not as to quantities. We took some measurements to get the points at which we dug.

Q. That cutting had been finished a year and a half to two years before you were there at all?—A. Oh no.

Q. How long was it?—A. I cannot say the length of time. I don't think it had been finished anything like that time.

Q. How long, one year?—A. I don't think that had been finished one year.

Q. I suppose the appearance of the slopes would be altered considerably by the lapse of time, wouldn't it?—A. I daresay somewhat.

Q. The material would disintegrate with the weather?—A. Yes, some of it would.

Q. Assembled rock, even according to your amended definition of January, 1908—assembled rock on the surface would be most exposed to disintegration by the weather would it not?—A Not the rock itself.

Q. Not the rock itself?—A. It had to be rock.

Q. It had to be assembled?—A. I know it is assembled. Some of it rolled down on the slope but there would still be rock there.

Q. I know, Mr. Lumsden, but we arrived, I think, at an understanding of what was the meaning of your interpretation and it was after having adopted Mr. Newcombe's view——A. Yes.

Q. That the size of the rock was not in question, if it were cemented together as a solid mass——A. And was not graved or sand.

Q. If it was cemented together in a solid mass——A. Yes, and was not gravel or sand or clay.

Q. It were immaterial what the size of the stones were?—A. As long as they were a mass of stones.

Q. Is it not a fact that the formation would be exposed to disintegration from the weather conditions?—A. The softer material in it would certainly.

Q. Yes.—A. If it was clay or if it was sand that might wash away a little.

Q. Would you pretend to say for one instant, Mr. Lumsden, that going there a year afterwards you would find the same material?—A. You could not find the same material because it had been removed. But you could find the adjoining material on the slopes, and by digging in beyond the natural slope, digging in four or five feet, you could see what that material had been.

Q. How much of it would you see?—A. You would see just as much as you choose to dig. That would depend upon how much digging you would do.

Q. How much digging did you do?—A. We dug probably——

Q. Have you any notes of what you dug?—A. I will see whether I have here (referring to diary) I have got May 23. This is on the Sunday when we went back.

Q. Yes.—A. We cut down to about line of sub-grade to a width of 18½ feet north. That is measuring approximately from the centre line out to the north. They show six feet of assembled rock in the slope at station 173.

Q. You say they showed six feet of assembled rock?—A. 'Six feet of assembled rock. On the north side we found two or three small boulders that might measure loose rock. Material sandy with a number of small stones easily handled with pick and shovel. On the south side much similar. A little frost 22½ say two feet down. Contract sand and small stones. Station 176.',

Q. Are you describing where you dug from?—A. Yes. The digging at station 173. The next is station 176.

Q. I want you to tell us how much you dug. How large was your digging?—A. Oh, probably about two feet wide and in perhaps four or five feet. That is perhaps four or five feet horizontally.

Q. Two feet wide by four or five feet. How many diggings did you make on that half mile cut?—A. Well that was one.

Q. How many more?—A. Station 176. The notes say, 'A few small stones. Both sides dug out to 19·7 feet on the south and 17·17 on the north, 3·3 feet deep. They showed 10 feet of assembled rock.' I have got here another note. I find another borrow pit. I did not know I examined the borrow pit: '459 principally sand and clay to the south, frozen.'

Q. Now I want you to tell us how many diggings you made on that half mile cut?—A. As far as I notice two. I have only given two.

Q. Were they approximately the same size?—A. I can't tell the exact size.

Q. Two feet by four or five?—A. Two feet wide dug in four or five feet to a depth of three or four feet.

Q. Exactly to a depth of three feet. And in both cases you found a number of feet of assembled rock?—A. No, we didn't.

Q. I thought you said you found assembled rock?—A. No, that was what the returns on the profile showed.

Q. I thought you told us what you found?—A. 'They showed six feet of assembled rock.' That is the note I have got, and 'we found on the north side two or three small boulders that might measure loose rock. Material sandy, with a number of small stones easily handled with pick and shovel. On the south side much similar. A little frost in, say, two feet down; compact sand and small stone.'

Q. Do you know whether this cut was one of those objected to by the Grand Trunk?—A. I am not perfectly sure. I think it was, but I am not perfectly sure.

Q. Did you ever see that cut while it was in progress?—A. I saw it once before, yes.

Q. Once?—A. Yes.

Q. When was that?—A. That was on June 4, 1908.

Q. That was nearly a year before?—A. Yes.

Q. What did you see then?—A. The two ends of the cut were open, but there was only a small proportion of the cut done at that time comparatively.

Q. How much?—A. I say a small proportion. There might have been one-quarter done. The two ends were open; I recollect that.

Q. Did you, in June, 1908, take any exception to the classification?—A. The classification? The engineer who was in charge of the work, Mr. McHugh, we did not find him there when we went there, but just before leaving the work we did meet him, and I spoke to him and asked him about the classification; and if I am not mistaken I also spoke to Mr. Poulin about it afterwards.

Q. Did you take any action at all after your visit there in June, 1908?—A. I did not take any action in connection with it, because it was only in process of construction.

Q. If you had a cut half a mile long, and a quarter of it completed, you could then see what was the nature of the classification and the standard of it?—A. I remember complaining that I could not see where all the rock came from.

Q. Was that all you did about it?—A. That is all I recollect now having done about it.

Q. If you were dissatisfied with the classification, Mr. Lumsden, why did you not take some steps then to stop it and change it?—A. Because the engineers on the ground could rectify it. I told them what my views were, that there appeared to be too much rock there.

Q. What did they say?—A. I can't tell. I don't remember what they said.

Q. And did you dismiss it then without doing anything more than that?—A. I don't recollect doing anything more than telling them that it didn't look to be right.

Q. Would you be prepared, as a professional man, Mr. Lumsden, to found any opinion as to that half a mile cut upon the inspection you made there in those two diggings of two feet?—A. Well, I certainly did form an opinion on the ground from the information I had.

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Q. Well, now——?—A. I formed an opinion of that cut.

Q. Well, now, tell us frankly, Mr. Lumsden, what is the value of such an opinion?—A. Well, that depends upon what you take it at. I satisfied myself.

Q. Yourself? What do you think as to the value of it yourself?—A. Well, as far as I am concerned, I think it was of a good deal of value. I mean to say——

Q. In half a mile cut you made two diggings of two feet by three or four feet in depth?—A. Oh, no. Not two diggings, diggings at two stations. That means two at each, that is four.

Q. Well, call it four?—A. That is one on each side.

Q. Well, call it four or call it ten, if you like?—A. Well, I say you could form an opinion on that.

Q. Is such an opinion reliable?—A. It is not a measurement.

Q. Well, is it reliable at all?—A. Well, you form an opinion. If you are told there is rock there, and you dig in and find it is rock—in two places we call it—you certainly cannot imagine the whole thing is right.

Q. Well, I want to put this question to you, Mr. Lumsden: You have already said very frankly and very fairly on several occasions that you attributed no dishonesty——?—A. No.

Q. To the engineers who were classifying?—A. No.

Q. Well, now, I ask you, and I would like you to give me an answer in the same frank way, whether the opinion that you formed there would stand for one moment against a classification made by men on that ground for eight or ten months, men whose honesty you do not challenge or impeach in any way whatever? Would your opinion stand against classification made from day to day by honest engineers on the ground?—A. Well, I cannot agree with their classification. I mean to say I cannot agree with the classification as I found it. When on the ground I could not agree with it.

Q. You went there a year afterwards, almost, in some cases, two years afterwards?—A. Some of the work may have been done two years.

Q. There had been surface changes during that time naturally; you admit that, don't you?—A. There would be some changes.

Q. And this was a cut that would have taken, you say, probably eight or ten months?—A. I don't know how long.

Q. That was inspected by the resident engineers all the time?—A. Yes.

Q. And you don't challenge their honesty in any way?—A. No.

Q. Now, what is the conclusion, Mr. Lumsden?—A. Well, I could not agree that there had been as much rock, in many cases, as much loose rock, as they returned. Not from what my previous experience on similar work had been. I may be wrong. That is my opinion formed on the ground with the information I had and what I saw on the ground.

Q. Well, I wish to be absolutely fair, Mr. Lumsden, in any questions I put to you, but you have just now stated that you based that opinion on experiences on other work, and so on?—A. Yes.

Q. Is that a fair thing to do?—A. Well, I think previous work—if you have been in the habit of looking at cuttings of a similar nature there is certainly some advantage of seing some of it done.

Q. But when you are coming to challenge the classification made by engineers whose honesty you admit?—A. I do not—I am not impeaching their honesty at all but at the same time I cannot agree with the classification.

By Mr. Moss:

Q. Are you speaking now of this particular cut, Mr. Lumsden?—A. Regarding that particular cut.

By Mr. Smith:

Q. And are we discussing this half mile cut altogether. Your previous know-

ledge and experience wouldn't give you any information as to what material was in that cut and had been removed, would it?—A. I couldn't tell what material had been removed.

Q. No?—A. All I could tell was what material was adjoining that which had been removed.

Q. And you could tell what was on the surface there or you could tell as far as you choose to dig beneath the surface?—A. Yes.

Q. And upon that half mile cutting you only chose to dig at two stations?—A. That is all I appear to have notes on.

Q. Was the digging made on Sunday or the previous day?—A. On Sunday.

Q. It was?—A. Yes.

Q. Isn't it a fact, Mr. Lumsden, that if you wanted to get such information as is now possible you would have to strip the whole of the slopes along the whole of that half mile cutting and even then you wouldn't have information as regards the material that had been removed? Isn't that the truth?—A. Well I think there is a great deal more to be found out as to what material came out of that—as to the material itself where it had been put in the embankment—as far as the rock is concerned. If it was rock that rock must be still in the embankment.

Q. If it was assembled rock?—A. If it was assembled rock there would be that proportion of the assembled rock where the rock went in.

Q. That is if you choose to take the material out of the embankment, but it would cost about as much as to build the road?—A. It might possibly cost you more if trains were running. Then it might cost you more to do it.

Q. So that in order to determine—that is as far as it is possible to do it now—what that cut contained would cost you probably as much as to make the cut or very nearly. That is correct, is it not?—A. Well if you took the whole of it. But you could take pieces of it out, take a section of ten feet or a section of that kind in the embankment, to see what proportion of rock was in it.

Q. But you are not going to judge a half mile cutting by ten feet surely?—A. You could pick out half a dozen points, and dig it, and see what the average was.

Q. Now this first cutting of half a mile, I am instructed, was never in dispute between the Grand Trunk Pacific and the commissioners?—A. I am not sure that it is; as I told you in the first instance I am not sure it is one of them.

Q. Then the time, I suppose, was wasted that was spent on that?—A. It was not wasted as far as I was concerned.

Q. Look up the list just for accuracy's sake, and let us see whether it has been in dispute or not.—A. (after consulting list) No, it is not there; it does not appear to be there, the first station there is 262.

Q. Now let us proceed to the 24th May. Where did you go on the Queen's birthday—before you pass to that, Mr. Lumsden, you say that your opinion was there was too much rock there in that half mile cutting, too much rock had been allowed?—A. Yes.

Q. How much ought to have been allowed?—A. I can't say that now—I can't say the amount.

Q. What was your idea, what notes have you about it that would give you any idea of how much ought to have been allowed?—A. I beg your pardon, I find that I have, on looking over further, two more diggings in that cut.

Q. How many is that altogether?—A. That makes, I think, one at 178 and one at 180, I did not give you these before; that makes four points, that will be eight places that we dug.

By the Chairman:

Q. Did you say that that cutting was in dispute?—A. No, that cut was not in dispute.

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Q. What could be the object of the other arbitrators in making the test in that cutting?—A. They made up their minds to try every cutting as they went along.

By Mr. Smith:

Q. You went on that cutting with Mr. Woods?—A. Yes.

Q. In June, 1908?—A. Yes.

Q. Well, now, surely Mr. Woods then must have been satisfied with the classification of that cutting because it is not in dispute and was not included in the arbitration?—A. I notice it is not included in the arbitration, but he did dispute that with me though, I remember that, though he does not mention it in the list he gave.

Q. When he went specially with you to make an examination of that cut in order to satisfy himself in June, 1908, surely if he had any fault to find with it we would have found it in the disputed list for arbitration?—A. He does not appear to have included it in the list he sent.

Q. What is the natural inference?—A. I can't tell you.

Q. Isn't is that after visiting the place and making the special examination which he did he didn't think it proper to make any suggestion in regard to that cut?—A. I can't say what his intention was, whether he overlooked it, or whether your reason is correct, I cannot say.

Q. How long would you be going over that half mile cut altogether?—A. I couldn't say—I can't say that, I think probably several hours; we spent most of our time there on Sunday—at least a considerable time.

By Mr. Moss:

Q. How long were you there on Saturday going up?—A. I think we were all Saturday afternoon.

Q. You were all Saturday afternoon on that cut?—A. Oh no, not on that cut.

Q. But how long were you on this cut?—A. On Saturday afternoon? I can't tell you how long we were in it, not very very long on Saturday afternoon.

Q. Did you walk through it?—A. We certainly did on the second day, but I am not positive about Saturday.

By Mr. Smith:

Q. You were a considerable time on that cutting but you cannot fix exactly how long?—A. Yes.

Q. You think it would run into hours?—A. Yes, I think about two or three hours, but cannot say positively.

Q. Was the cut different in appearance then from what you saw in June, 1908?—A. Yes, I did not see but the two ends of it in June, 1908.

Q. Take the two ends, how did it appear, what was the difference?—A. Well, there was a good deal of difference, the track was laid through it. On the second occasion, and the first time I was there it was not sloped.

Q. The slopes were not made at all?—A. No.

By Mr. Moss:

Q. Were they not working at it from the top in June as well as the ends?—A. No, in one end they were not working, they were just starting to go in again, they had worked it, and had abandoned it, the east end.

Q. It was finished two months after you were there in June.—A. Well, then——

Q. It was finished two months after you were there in June?—A. Then it must have taken a much shorter time. My recollection is that the ends were open, and a considerable portion of it was not done.

Q. I do not want to interrupt?—A. I do not know, I have no notes of it.

By Mr. Smith:

Q. Where was the next cutting to that on this seven and a half miles?—A. Station 232 to station 238—I do not know whether that is in dispute, I think—

Q. What is the length of that cut?—A. About 600 feet, 600 odd feet.

Q. Have you any recollection of the height of it?—A. No.

Q. Had you seen it before in June, 1908?—A. No, I only saw one cut in June, 1908.

Q. Do you know when the second cut was begun or finished?—A. No, I do not know anything about the dates of it.

Q. How long were you on it, when did you inspect it?—A. On the Saturday, I do not know whether I was back on Sunday or not. I have found another digging in that cut, that makes five. They were separated in my notes.

Q. Is that in the half-mile cut?—A. That is in the half-mile cut.

Q. Just tell the stenographer about this extra digging, so that we will have them all in the record?—A. At station 182, we dug also at 182.

Q. Did you tell us what was the total number of yards in the half-mile cut?—A. No.

Q. Have you any idea?—A. In the neighbourhood of 43,000 yards I have it, that is from the figures I have in my head.

Q. In the half-mile cut?—A. Yes. Forty-three thousand yards.

Q. You have come to the second cut which was 600 feet? What did you do there?—A. I can't tell you any details of it.

Q. Did you make any diggings there?—A. Oh, no, we didn't measure it.

Q. You made no diggings?—A. Wait a minute I will have to look (after referring to diary). No, I have got no diggings there.

Q. And no measurements?—A. No, no measurements.

Q. Have you any notes which would indicate how long you had been on that second cutting?—A. No.

Q. That second cutting is not in dispute?—A. I don't think so. (After referring to diary) No.

Q. The second cutting not having been in dispute what interested the arbitrators to go there?—A. They wanted to examine——they examined every cut as they went along the same as I did all through in district 'F.'

Q. Can you tell us why?—A. They will have to explain their own reasons. I won't explain for them.

By the Chairman:

Q. The third arbitrator was Mr. Schreiber?—A. Yes.

Q. He did not insist when investigating those cuts upon having a digging made the first time he went over it?—A. Oh, yes he did.

Q. But you said a few minutes ago that you did not make any diggings there at all in the second cut?—A. On that second cut?

Q. Yes.—A. I presume there would be no assembled rock in it, and if there was not they would not do any digging.

By Mr. Moss:

Q. Upon Mr. Schreiber's suggestion the first digging was made in the half-mile cut?—A. I do not know whether it was Mr. Schreiber's or whose. I know I suggested digging in some places.

By Mr. Smith:

Q. We have had two cuts, now go on. What is the length of the next one?—A. 244 plus 50 to 247. The next one is about 250 feet but that is all rock.

Q. Was it rock?—A. Well, I don't know.

Q. Have you any fault to find with it at all?—A. I have not got any notes about that one.

Q. So you think that one probably?—A. I don't see any note.

Q. You don't know how long you were on it?—A. I can't tell just how long I was on any.

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Q. Now the next one?—A. 260 to 267 plus 50.

Q. How long will that be?—A. 750 feet.

Q. You have no recollection of that cut particularly?—A. I have no particular recollection of any one of these cuts.

Q. It is only from your notes that you are able to speak of?—A. That is all.

Q. What did you do on that cut?—A. I have got no notes of anything being done on this cut.

Q. You took no measurements?—A. Took no measurements.

Q. And you did no digging?—A. Did no digging.

Q. 750 feet is quite a little cutting is it not?—A. Oh yes. A large proportion of it was solid rock.

Q. How long were you on that?—A. I can't tell you.

Mr. CLARKE.—None of these are in question, are they?

Mr. CHRYSLER.—That one is in question, 260 is right on that cut.

By Mr. Smith:

Q. You have no notes of how long you were on that cut?—A. I have no notes of how long I was on any particular cut.

Q. What notes have you about it?—A. I have just got what the returns were on it. I have got the amount of rock and the amount of loose rock and the amount of overbreak.

Q. That had been returned?—A. That had been returned.

Q. And you have no comment at all?—A. I have no other comment at all.

Q. You do not say whether in your opinion, or you entertain no idea of whether, it was too much or anything else, do you?—A. Not regarding that cut, or the next one.

Q. Where was the next one?—A. 268 plus 50 to 273 plus 55.

Q. Yes?—A. That is about 500 feet.

Q. Would you have any objection to read what notes you have?—A. (Reads) '260 to 267 plus 50. R 6810,' R standing for rock. 'L. R. 1418.'

By the Chairman:

Q. L.R. means loose rock I suppose?—A. 'Loose rock 1418' I have got 'O. B.' which I presume is overbreak.

By Mr. Smith:

Q. Then the last one—we will call it the fourth cutting—is not objected to by the Grand Trunk Pacific?

Mr. Moss.—This is one that is objected to, 260 to 267 is it not?

Mr. CHRYSLER.—This one is objected to that he is speaking of at the moment.

The WITNESS.—Is it station 268 plus 50 or 273 plus 75 that you are speaking about? I am giving the stations, which one are you referring to? I have given you the quantities for 260 to 267 plus 50. I have simply got the quantities here.

Mr. Moss.—That is objected to.

By Mr. Smith:

Q. And no comments at all. You don't say what it ought to be or whether it is too much?—A. Those last two I have not got a note of. Except that I have got 'some overbreak O.K.'

Q. Some overbreak O.K.?—A. Yes.

Q. Well, now, we have got how many cuttings? That is the fifth we have. Now where is the sixth?—A. 302 to 311.

Q. Now, that is one that is objected to.

Q. What is the length of that?—A. 900 feet.

Q. This cut you are now speaking about, 302 to 311, is about 900 feet long you say?—A. About 900 feet long.

Q. That is a rock cutting, and it would take some time to do, wouldn't it?—A. Oh, yes.

Q. How long would it likely take to do that?—A. Oh, I can't tell you how long.

Q. Would it run into months?—A. Probably.

Q. It would probably run into months?—A. Several months.

Q. Have you any note of how long you were on that cutting?—A. I may tell you I have the total solid rock, 19,519; of loose rock, 1,799, but over 'solid rock' I have cutting.

Q. Did you make any diggings on that cutting?—A. That was all ledge rock, we didn't dig, we couldn't dig; a very large proportion of it was ledge rock though. I have the total solid rock, 19,519 of loose rock 1,799, but over 'solid rock' I have 'Ass. 5,305.'

Q. What does that mean?—A. I assume that out of that 19,519 I assume 5,305 yards were returned as assembled rock.

Q. What criticism do you make on that?—A. 'West end, 1,000 yards wasted.' Of course, that 1,000 yards is not a measure, there was a lot of waste at the west end.

Q. What do you mean by waste?—A. Rock taken out; the waste, I presume, was in rock, a lot of it wasted, 'cut out 5,305 assembled rock, and overbreak, 4,967.'

Q. When you say that the waste you presume was in rock, you do not know whether it was rock or not?—A. I can't say why the 'R.' isn'tin here, but, as the cut was nearly all rock, I presume it was rock, but can't say.

Q. I suppose you did not find any particular fault with that, did you?—A. I don't think I have that down on my list.

Q. That was one of the cuttings that was in dispute, and you have no diggings and no measurements at all?—A. I have no measurements.

Q. And no diggings, as you have told us?—A. I have no diggings—at least I will have to look back to Sunday; I don't think I have any diggings. (Refers to note book.) No, I have no diggings there.

Q. When you say 'cut out' there, what is the meaning of that? Were the arbitrators going to cut that out?—A. I do not know what they were going to do; I have cut out the waste.

Q. Were you going to revise the classification at all in that cutting?—A. I cannot say whether it was or not; I can't say by this.

Q. Will you help us to the extent of giving us your recollection and your notes as to what your conclusion was on the cutting?—A. I can; I can give you what my idea of it was, that the solid rock should be 9,247. I have a note of that. I find that the loose rock is 200 and the common excavation 6,905.

Q. How did you arrive at that?—A. Simply by looking at it; I made no measurement.

Q. But how did you get it so exactly as those figures show?—A. Because I took their quantities of the total excavation.

Q. You took the actual measurements which the engineers had made?—A. The total.

Q. The total of the cut, and then you simply varied these proportions of solid rock, loose rock and common excavation?—A. Yes.

Q. On what principle did you do that?—A. Oh, it was simply a guess on my part, I made no measurements.

Q. Well, the arbitrators agreed with your guess?—A. I can't say whether they did in that case or not.

Q. Did they actually agree with you?—A. I can't tell you; I have no note of it. They will have to explain that for themselves; I can't.

Q. Did you discuss it with them?—A. I think it is probable I did.

Q. You have no note at all that would help you to tell us how long you were going through that cut?—A. As I told you, I can't tell you how long we were going through

any of the cuts. As far as I know, we spent more time, to the best of my knowledge and belief, in that first cut than in any other.

Q. Do you know, or are you able to say whether you got out of your car at all in this cut?—A. I think I got out of the car at every cut, at least in this neighbourhood.

Q. Your recollection is not very clear as to whether you did get out at every cut?—A. I believe I did.

Q. Now, will you kindly tell us the next one, Mr. Lumsden?—A. 314 plus 30 to 318 plus 60.

Q. That is also in dispute; that is one of those referred to the arbitration. Station 316 to something which is in blank at the top of page 8 of the return. What is the length of that cut?—A. 430 feet.

Q. You simply passed through it; you can't tell us how long you were there, nor anything else?—A. No, I can't tell you how long.

Q. There was no digging in that cut?—A. No.

Q. And no measurement?—A. And no measurement.

Q. What is your note as to what the classification was and as to what it should have been?—A. Well, I have a note of 1,646 yards of assembled rock, 1,398 yards of ledge rock and 908 of loose rock; that is the returns that were made on the cut as given to me.

Q. By the engineers?—A. By the engineers.

Q. What do you say about that?—A. Well, I have it down as 1,398, that is what I think it ought to have been—ledge rock, 2,554 loose rock, and 1,000 yards common excavation.

Q. How did you get at those exact figures? Do you take a proportion or a percentage, or what??—A. They were not a percentage, in many cases simply an approximate amount.

Q. A guess?—A. A guess of the amount.

By Mr. Moss:

Q. There must have been an agreement between you and the other arbitrators?—A. Almost invariably there was a discussion.

Q. And you must have come to an agreement between the three of you?—A. Yes, as a rule.

Q. That is how you came to get those odd amounts, was it?—A. Sometimes each of us made our own estimates, and then compared notes.

By Mr. Smith:

Q. And then you took the average of them?—A. Yes.

Q. Was that principle followed, Mr. Lumsden?—A. Not invariably, but we very often did.

Q. Very frequently?—A. Yes.

Q. But you would each look at it, and each would say, 'I estimate that at so much,' and then you would put the three of them in a bag and shake them up and take the average, is that it?—A. I think that was done in some cases.

Q. Yes, and in a good many cases, and that represents, as you say, no measurement?—A. No measurements; the only measurements we used were the total measurements.

Q. And no diggings into the sides, or anything else?—A. There was no digging done there.

Q. Now this cutting and the last few you have been speaking about, can you tell when they were finished?—A. No, I do not recollect anything about them.

Q. Did you see these in June, 1908?—A. No.

Q. Now give us the next one?—A. Station 331 plus 80 to 334, I have it.

Q. To 340, it is 331 to 340 here, on page 8 of the return you will get it?—A. 331 to 340—this looks like 331 plus 80 to 334, but 341 I think it must be meant for.

Q. Yes, probably, that is probably what it is here. That would be how long a cutting?—A. 920 feet.

Q. What note have you in regard to that?—A. I have 5,256 yards of rock—

By Mr. Chrysler:

Q. Allow me in giving these figures, it will be convenient, if you tell us before you start, what figures you are going to give us first?—A. The figures given to me on the ground.

Q. You give those figures first, and then you give your correct figures?—A. Yes.

Q. This first lot are the figures given you on the ground?—A. Yes.

By Mr. Smith:

Q. The figures given you by the resident engineer?—A. Yes, or somebody.

Q. What are the figures?—A. 5,256 yards of rock.

Q. Is that solid rock?—A. Solid rock, of which the over-break was 1,229, and I have 'let it go.'

Q. Your note is 'let it go.'

Mr. CHRYSLER.—That is 'it stands.'

By Mr. Smith:

Q. You think that is about right?—A. Yes.

Q. So that with regard to that cutting we may dismiss it?

By Mr. Moss:

Q. Does that mean that the other arbitrators were prepared to let it go?—A. I presume so.

Q. (Reads.) '335 plus 60 to 343.' That seems to be overlapping the other.

By Mr. Chrysler:

Q. You have divided it into two, but it is a continuation of the same. Your figure 341 must have been wrong. You must have gone to 334 there.

Q. That first one must have been 334. I fancy 331 plus 80 to 334. Then this is the next 335 plus 60 to 343.

By Mr. Smith:

Q. What is the length of that Mr. Lumsden?—A. 740 feet above.

Q. It makes 920 feet and 740?—A. Oh no. The first one should have been only 320 feet.

Q. 320 feet and 740 ?—A. This last one is 740, yes.

Q. That will make together 1,060 feet. Did you make any diggings on that cut? —A. No.

Q. Did you take measurements?—A. No.

Q. You have no notes of how long you were going over it?—A. No, I have told you I have no note of any length of time on any of them.

By Mr. Chrysler:

Q. What about the figures?—A. The figures I have got are '3,005 yards of rock' —that is ledge rock—'360 yards of assembled rock, and 428 yards of loose rock.'

By Mr. Smith:

Q. Yes, what did you say about it?—A. 'Cut out assembled rock, call it loose rock. Making it 3,005 yards of solid rock and 788 yards of loose rock.'

Q. All your suggestion there is to take out 360 yards of assembled rock and call it loose rock?—A. Yes.

Mr. Moss.—That is a decision as I understand, and not a suggestion.

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By the Chairman:

Q. Did the other arbitrators admit those figures, did they simply take your information?—A. They had their own information and we compared notes.

Q. This is the result of the three opinions, is it not?—A. Not in every case, in most cases.

Q. But in this one?—A. As far as I know it is.

By Mr. Moss:

Q. Was there any record kept by anybody as to which ones were decided and which ones were not?—A. I think there were in a few instances in which we did not agree.

Q. Only in a few instances?—A. Yes.

By the Chairman:

Q. You did not make any diggings in that cut did you?—A. No, it is practically all rock. Not all, but a great proportion of it.

By Mr. Smith:

Q. You simply agreed, the three of you, to cut out the assembled rock?—A. Yes.

Q. On what principle?—A. I saw no material that looked like assembled rock there.

Q. But you were going to put it in loose rock?—A. Yes.

Q. Surely you saw rock when you were going to put it in loose rock?—A. Oh, we called it all loose rock in place of calling a portion of it assembled rock.

Q. Is it not clear you must have had rock material there if you were able to put assembled rock into loose rock and call it loose rock?—A. It may have been hard material to plough. It may have been impossible to plough.

Q. At all events the material, the mass must have been there?—A. There must have been some material, the quantity must have been there because the total measurements were right.

Q. You have no note as to whose suggestion it was?—A. No.

Q. To cut out as you say the assembled rock?—A. No.

Q. You took no measurements there?—A. I made no measurements at all.

Q. Well the tenth cut now, where is it?—A. 353 to 365 plus 30.

Q. Yes, that is also in dispute?—A. Yes.

Q. How many feet were there there?—A. 1,230 feet.

Q. The only way we can get at the depth will be by looking at the profile?—A. That is all.

Q. What note have you about this?—A. The figures I have got from them appear to be: '850 yards is rock and boulders, 1,157 yards of loose rock, 1,700 yards, common excavation.'

Q. Yes, and what do you say it ought to be?—A. Well, I have got it 500 yards of loose rock and the rest is common excavation.

Q. 500 yards of loose rock?—A. Yes, and the rest common excavation.

Q. And how did you arrive at that?—A. Simply by looking at it.

Q. A simple guess?—A. Yes, it is a guess to a great extent.

Q. Well, it must have been because you made no measurements?—A. No, no, we made no measurements.

Q. You made no diggings?—A. No. I saw no indications of rock anywhere.

Q. On the surface?—A. On the surface or at the foot of the dumps.

Q. And you do not know how long this had been finished before you had been there?—A. No.

Q. Probably over a year?—A. I can't tell you whether it was or not.

Q. Most of it was finished over a year?—A. I can't tell you definitely when any of these cuts were finished.

By Mr. Moss:

Q. Have you given us the whole of your notes about that?—A. I have given the whole of the notes about that.

By Mr. Smith:

Q. You were there in the month of May and this would have been finished the previous fall would it not?—A. I presume so, I can't tell you. Some of that work was finished, I think, during the winter but I can't tell you any of the individual stations.

Q. Well, now, give us the next one, Mr. Lumsden, I want to get all these different cuttings. We will call this cutting 11 in this seven and a half miles. What is the length of it?—A. Station 375 plus 75 to 382.

Q. Yes, how many feet?—A. Oh, 625.

Q. Did you make any measurements or first, did you make any diggings?—A. No, I have no note of any diggings.

Q. And you made no measurements in any of them?—A. No.

Q. What note have you about what you did there?—A. I have got the notes of the quantities that were given me: 'assembled rock 302, solid rock 1,834, loose rock, 1,443, common excavation 1,078.'

Q. Those were the figures given you by the resident engineer?—A. Yes, by some one. In every case it was not the resident engineer.

Q. Were they got from the estimates do you think?—A. Oh, I believe so.

Q. Probably got out of the estimates?—A. They were given us by one of the engineers, it may have been the division engineer, one of the engineers on the road.

By Mr. Moss:

Q. And taken from the regular engineer's returns?—A. Yes.

By Mr. Smith:

Q. And what do you say about that classification?—A. Well, I have got——my idea of it was solid rock 1,834, loose rock 1,745, common excavation 1,078.

Q. Well, then, all you did then was to put the assembled rock in with the loose rock?—A. With the loose rock.

Q. That is it exactly?—A. Yes.

By Mr. Moss:

Q. You say that was your idea? And it was the arbitrators' idea?—A. According to my idea, and I think it was the arbitrators' idea.

By Mr. Chrysler:

Q. You removed the 302 yards of assembled rock from that class and added it to the loose rock?—A. Yes.

By Mr. Moss:

Q. Was that the decision that the arbitrators came to on the spot in that cutting?—A. Yes, on the ground.

Q. That decision was reached right on the ground?—A. Yes.

Q. And it was to come to, of course, without consultation between you and the engineers, district or divisional?—A. As a rule, yes.

By Mr. Smith:

Q. You simply, the three of you, said you will take assembled rock and put it as loose rock?—A. We did not see any sign of anything that we could identify as assembled rock.

Q. The words 'loose rock' means something, doesn't it?—A. Oh, yes.

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Q. You must have had rock there to classify as loose rock?—A. It might be cemented material, it might be indurated clay, or it might be cemented gravel.

Q. It might be small stones that had been cemented, but had become disintegrated during the winter from frost and one thing or another?—A. It might; I can't tell you.

Q. And that is what the other arbitrators were willing to report with you?—A. I believe so.

Q. Now, give us the next cutting. We will call it twelve?—A. What station was the last I gave you?

Q. You last gave us 375 to 382?—A. Then I have a 'borrow,' but I do not suppose you want that.

Q. What do you say about the borrow pit?—A. The note is 'let this go.' There is no objection taken about the borrow pit.

By Mr. Clarke:

Q. How were these borrow pits selected? Were they selected by the contractors? —A. Oh, they are, as a rule, picked out by the engineers, or, if the contractors find them, they will get the engineers to cross-section them before they start work; but, as a rule, they are picked out by the engineers.

Q. Always they are picked out or approved by the engineers?—A. Yes.

Q. I suppose they would take clay where they can get it?—A. They would take the best material they could get, naturally; that is what they are supposed to do.

By Mr. Smith:

Q. Well, now, go on to the next cutting. We will call the next cutting twelve. Tell us the station, the length, and so on?—A. The station 401 plus 25.

Q. 401?—A. Yes; that is one that is not in dispute.

Q. That is not in dispute, but you still inspected it?—A. Yes.

Q. What was the length of the cutting?—A. 650 feet.

Q. And what note have you about it?—A. I have got a note that the return as I got it was assembled rock, 708; loose rock, 650; and common excavation, 173.

Q. And what do you think it ought to have been?—A. I have some other figures—solid rock, 5,650, I think it is, but the figures are blurred, and I am not perfectly sure about the solid, but I think it must have been solid, because I have no solid rock anywhere else.

Q. What do you say it ought to have been? Can you make the figures out?—A. I am just trying to figure it out; out of that 5,650 was overbreak 1,536.

Q. And what did the arbitrators agree with you it should have been?—A. Solid rock, 4,124; loose rock, 708; common excavation, 2,349.

Q. Now, that was what the other arbitrators agreed with you they would allow? —A. I assume so.

Q. In other words, Mr. Lumsden, without any measurements, without digging into the sides of the slopes, but simply by looking at that cut?—A. Yes.

Q. A long time after it was completed, by a guess, as you admit; by guess, you admit it is nothing more than a guess, you are going to overrule the classification of the engineers, in whose honesty you have confidence, who were classifying that material day by day as that work went on?—A. I could not agree with the classification when on the ground.

Q. Isn't that what it comes to?—A. As I say, I could not agree with the classification as I found it—as it is returned there.

Q. Tell me if I am stating it too strongly; doesn't it come to that? You have engineers there, whose honesty you have no reason to doubt, you have no hesitation regarding their honesty; this cutting took a number of months, that is correct, isn't it?—A. I can't say about this cutting; a good many of them did.

Q. Many of them took many months, and the resident engineers were classifying that work as it went along from day to day, and you come along a year later, when everything is finished, and you glance at it, and you substitute your judgment, which you admit to be a mere guess—?—A. Yes.

Q. For the classification made day by day by those engineers who were on the spot?—A. Well, I could not when on the ground agree with them—I can't say anything more here now.

Q. But, Mr. Lumsden, I am stating that correctly, isn't that what it comes to?—A. I made no measurements, the proportion is a guess.

Q. And the other arbitrators made no measurements?—A. The other arbitrators made no measurements.

Q. And you did the same in the cuts that were not objected to, and were not the subject of arbitration?—A. Oh, yes.

Q. So that the—?—A. On this portion in 'F.' I took them all.

Q. Your quantities are the same total quantities as those returned by the engineers?—A. That is what they are supposed to be.

Q. Because they had cross-sectioned it, and taken out the total quantities, there is not a doubt about the measurements in them at least?—A. Not in those cases.

Q. You had here 708 yards of assembled rock, and you simply say, 'We won't call that assembled rock, we will call that loose rock.'—A. Yes.

Q. That is the judgment that you substitute for the judgment of the resident engineers made on the spot when the work was being done?—A. Yes.

By Mr. Clarke:

Q. Why would you change it? What was there in the character of the material that would cause you to change it to common excavation?—A. Because we couldn't see anything like what we could call assembled rock.

Q. That is rock that required blasting?—A. It didn't appear as if it required blasting. It didn't appear rock at all. Of course, with regard to this individual cut, I can't remember each individual cut.

By Mr. Smith:

Q. At all events, you substitute your judgment, and you say that, although you, the resident engineer, who classified this work when it was going on day by day, classified it as solid rock, 5,650 yards, we, coming in a year later, when everything is changed, substitute our judgment, and say we will call it not 5,650 yards but 4,124 yards?—A. Yes, we just took the ledge rock.

By Mr. Chrysler:

Q. I want to make that a little plainer, Mr. Lumsden. I think this is rather an interesting example of how the dispute was settled, so that I would like to have it clear on the notes, just what was done with it. The assembled rock of 708 yards you accepted as being loose rock, apparently that is the change?—A. That appears to be what it was.

Q. Your note does not show, does it, any observation as to the material, why you classified it as loose rock instead of assembled rock?—A. No.. The only note I have got are these figures. If they are taken down it will only be confusing. I mean to say if I read out the amounts and they are taken down it is repeating the same thing. The figures I have are solid rock 4,124, loose rock 708, common excavation 823 plus 1,536 for over-break in embankment.

Q. Then, to come back to my question: the 708 yards which the progress estimate made by the engineer allowed as assembled rock, you decided should be allowed as loose rock?—A. Yes.

Q. There is no change in the quantity there?—A. No.

Q. Then there is no change in the quantity of solid rock? There is 5,660 yards of which 1,536 yards are overbreak. Is not that so?—A. Yes. That is what was—

Q. It was solid rock in the first place?—A. Yes.

Q. But being overbreak you have considered that it should not be paid for as solid rock?—A. No.

Q. But be paid for as common excavation. Is that not right? Is not that the fact in the first place? I just want to ask your reason for it in a moment.—A. Yes, I was just trying to get the figures into my head.

Q. You said the 1,536 yards have to be added to the 823 of common excavation. Now I will show you how the 823 yards are made up. It consists of 650 yards of loose rock returned by the engineer?—A. Yes.

Q. And 173 yards of common excavation?—A. Yes.

Q. That makes 823 yards?—A. Yes.

Q. And to that you added 1,536 yards of common excavation which was the overbreak in the solid rock?—A. Yes.

Q. That is right is it not?—A. That is what appears to me.

Q. Is that proper, that 1,536 yards of rock removed outside of the slope line should properly be allowed as only common excavation?—A. Well, you see in this note of it 500 yards are wasted. The figures show it as 1½ of rock and if you make it equivalent to 1½ of earth, I mean to say that if you change it from 1½ of rock to 1½ of earth you would bring it up to 1,536 yards. I think you will find that that is the way it has been done.

Q. But you said the overbreak was 1,536 yards?—A. 500 yards of overbreak were wasted which will leave 1,036 yards. Take one-half of 1,036 and add it to that.

By Mr. Smith:

Q. What is the result of that, Mr. Lumsden? You disallow the overbreak?—A. We disallowed the overbreak.

Q. In the first place and then treat it how?—A. By cutting out the portion that was wasted.

Q. Cutting out 500 yards?—A. Cutting out the portion that was wasted and then allowing 1½ times of its value in earth for the overbreak.

By Mr. Clarke:

Q. But the other material was rock was it not, the 500 yards?—A. It was all rock.

By Mr. Chrysler:

Q. All rock?—A. There were 500 yards of it thrown to one side, but we took approximately 1,000 yards.

Q. On the principle that the 1,000 yards of rock would make in the embankment 1½ times as much as the earth?—A. Yes.

Q. You allowed 1,500 yards of common excavation for 1,000 yards of rock. Is that justified under some section of the specification, is there any rule for that method of measuring overbreak?—A. Oh not measuring overbreak, but when overbreak was used as embankment.

Q. The contractor had to be allowed for it as so much excavation anyway?—A. Yes if there was nothing else but rock, then he should be.

By Mr. Smith:

Q. Have you any note of any borrow pits being near there?—A. I have got a note of a borrow pit at somewhere above station 375 and that one I have last given you. I can't tell you the exact station.

Q. How long a haul must it have been?—A. I can't tell you. I have got the stations at which the borrows were at. There is a borrow between stations 382 and 401.

By Mr. Chrysler:

Q. Should not the allowance for the overbreak depend upon the judgment of the engineer as to whether, with due care, the contractor could have avoided bringing

it down, or whether the fault was caused by the excessive use of explosives?—A. Yes.

Q. Well, what material had you for forming a judgment in this case; were you depending upon the appearance of it?—A. Simply from the appearance—from the way the rock was laying.

By Mr. Clarke:

Q. Would that apply to the whole 1,500 yards? Is that something which should have been avoided, or does it apply to only the 500? The 500 yards were wasted?—A. The 1,500 were outside of the slopes.

Q. That is something that could have been avoided, the whole 1,500?—A. Talking of the individual cut, I can't say now. That appears to have been our opinion on the ground looking at it.

By Mr. Chrysler:

Q. If it could not have been avoided it should have been paid for as rock?—A. Yes.

Q. Notwithstanding that fault on the part of the contractor, you made use of that overbreak in the embankment, and he is entitled to be allowed earth excavation prices for it?

By Mr. Clarke:

Q. It is down as common excavation instead of rock, if it is rock?—A. It took the place of common excavation which might be drawn by train haul or by borrowing from a borrow pit.

By Mr. Chrysler:

Q. Mr. Lumsden, some figures have been produced on a return from the Commission showing the quantity of the different classes of material estimated before the contracts were let. Is it in your knowledge what evidence the board had in its possession in making those estimates? Can you tell us about that? Did you do it yourself?—A. At what time was this estimate said to have been made?

Q. Before the contracts were let?—A. I made no estimate before the contracts were let.

Q. Do you know who did?—A. I do not think—I do not recollect any estimate made towards the operation of it by any Transcontinental Railway engineers.

Q. Then we will have to ask somebody else.

By Mr. Macdonald:

Q. There have been some figures before the House in which the estimated expenditure on the road was stated to be so much. When were they made?—A. I think it must have been made long before I had anything to do with it.

By Mr. Chrysler:

Q. Was there an estimate of the quantities?—A. There was at the time the contracts were let.

Q. That is what I am asking about?—A. Oh, yes.

Q. Who prepared that?—A. That was prepared in the office.

Q. It was prepared under your supervision, at any rate?—A. Yes.

Q. You can give us evidence with regard to that?—A. By seeing the papers.

Q. We can get them produced to refresh your memory?—A. Yes. I thought you meant prior to that.

Q. No; before the contracts were let?—A. Oh, when the contracts were let there was. I thought you meant prior to that.

The committee adjourned.

APPENDIX No. 3

MONDAY, April 4, 1910.

The Committee met at 4 o'clock p.m., the Chairman, Mr. Geoffrion, presiding.

The examination of Mr. HUGH D. LUMSDEN continued:

By Mr. Smith:

Q. The last you gave us was 401·25; had you finished what you had to say on that?—A. That was to 407 plus 75?

Q. I think we called it cut?—A. 650 feet, yes, that would be it.

Q. 407 plus 75, where was the next cut after that? We are always dealing with the first seven and a half miles?—A. Which do you want me to take? Cuts that are mentioned here?

Q. All that were visited; You said there were 20 cuts on that 7½ miles, and 3 borrow pits, I think you said.—A. 417 to 430.

Q. How long was that cut?—A. 1,300 feet.

Q. What did you do there?—A. We went through it and looked at it.

Q. Walked through it?—A. Walked through it.

Q. Did you make any diggings, or take any measurements?—A. No.

Q. What conclusion did you reach?—A. My estimate of what was in it was loose rock 678 and common excavation 12,747.

Q. Was that the estimate that the three of you arrived at?—A. Well, I believe so, but I am not positive about that, for we were to take all those up again, and we never took them up and compared them afterwards.

Q. But you explained to the committee how you took an average, in the majority of cases?—A. Yes, in the majority of cases we did, we took the average on the ground.

Q. That is to say, you took the average of your guess, Mr. Schreiber's guess, and Mr. Kelliher's guess?—A. Well, I do not know; Mr. Kelliher and I talked it over first of all, and then we talked it over with Mr. Schreiber.

Q. But, to use your own words, it was a guess in each case?—A. Well, I should suppose so; we did not make any measurements.

Q. What other notes have you respecting that cut?—A. I have only got the notes; I have got loose rock 678 yards to cover boulders; that is the only note I have got.

Q. What was the return made for that?—A. 678 yards assembled rock; 11,052 loose rock, and 1,695 common.

Q. How much altogether?—A. 678 loose rock, and 12,747 common.

Q. You eliminated all the loose rock?—A. No, not all the loose rock. I eliminated all the assembled rock.

Q. Can you say how long previous to your visit that cut has been completed?—A. No. I don't recollect anything of it.

Q. How long would it take them to make that cut, 1,300 odd feet?—A. Oh, I don't know, I can't tell you; about 13,000 yards in it.

Q. It would take months to do it?—A. It probably took them three or four months.

Q. And the resident engineer's reports on which the progress estimates were founded were made from day to day during the three or four months, as the case may be?—A. I assume so.

Q. Am I right also in saying that they were made from measurements?—A. Well, I can't tell you that. They are supposed to be made from measurements.

Q. Will you kindly go on; I want to get through those 7½ miles; where is the next cut.—A. 459 plus 70 to 461 plus 77.

Q. How long would that be?—A. It would be 207 feet.

Q. Neither this cut nor the cut you have just spoken about last, were questioned by the Grand Trunk Pacific?—A. No.

Q. They were not in dispute?—A. No.

Q. This short cut, I suppose you followed the same rule, then you took no measurements, and made no diggings?—A. Took no measurements.

Q. What notes have you about that?—A. I have got it all common excavation.

Q. And what was it classified before?—A. 4,017 loose rock and 355 common.

Q. There was no solid rock?—A. There was no rock returned in that at all.

Q. So you simply wiped out the classification of the resident engineer's as regards loose rock?—A. Yes, we made a classification.

By Mr. Moss:

Q. That was agreed to by the arbitrators as well, I am under the impression it was?

Mr. CHRYSLER.—Mr. Chairman, I am not sure about the propriety of the examination upon the proceedings of the other arbitrators, under the Order of Reference which we have here, and I think it is my duty to mention it. The recital of the Order of the House, at the fifth page of the proceedings before this committee is:—

> 'That while the House deems it not desirable to take any action which might prejudice the position of either of the parties to the arbitration proceedings now in progress between the Grand Trunk Pacific Railway Company and the said commissioners, yet the said recited allegations of said Hugh D. Lumsden, &c., should be investigated by a committee of this House.'

Now, I think it is quite reasonable that my learned friend should examine as fully as he likes to do any part of the notes which Mr. Lumsden has taken with regard to his examination of the work and his own observations with regard to it, and all that he can tell us as to his proceedings there; but I suggest that it is for the committee to determine that Mr. Lumsden should not be asked as to whether Mr. Schreiber or Mr. Kelliher agreed with him. They were then in fact carrying on the work of arbitration, at least as to some of these cuttings. As to others, perhaps they may have been spectators only, but at all events as to the cases in which they were acting as arbitrators, it seems to me it is not desirable that an inquiry should be made here as to their proceedings.

Mr. SMITH.—Mr. Chairman, I would have felt disposed perhaps to concur in what Mr. Chrysler has just said if any of those matters that we are now inquiring into were still sub-judice. On the contrary, the arbitration to which we are now having reference became absolutely abortive owing to the resignation of Mr. Lumsden; consequently none of those matters are at all under consideration by any tribunal whatever at the present moment, but by this committee.

Mr. MACDONALD.—Mr. Smith, there was another tribunal, I understand—Mr. Grant and Mr. Kelliher and Mr. Schreiber—and they were constituted under the statute. Is that not right?

Mr. CHRYSLER.—I understand so, from these proceedings.

Mr. CLARKE.—Have they done anything in it?

Mr. CHRYSLER.—They may not have met. They may not have entered upon the work of arbitration.

Mr. SMITH.—Is the suggestion that this evidence may influence the present Board? Is that the suggestion?

Mr. CLARKE.—I understand it is beyond the scope of the reference, that is Mr. Chrysler's point.

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Mr. CHRYSLER.—It is beyond the scope of the reference.

Mr. SMITH.—The reference declines to interfere with or prejudice the proceedings of that arbitration Board which was then constituted and was then carrying on its work; but we have this fact, that in the statement which Mr. Lumsden presented to this committee at its first or second meeting, Mr. Lumsden declared that he was influenced in writing his resignation, and particularly in stating the grounds of his resignation, by what took place upon the arbitration proceedings. How far Mr. Lumsden was influenced by the conduct and the opinions of the other arbitrators, it seems to me is brought into play by the statements which Mr. Lumsden, I think, volunteered—I know it was not in answer to any question I put to him—that they compared notes when they went over this ground; they each one made an estimate, and that in the majority of cases they took those three estimates, which, to use Mr. Lumsden's own words, were mere guesses, and that the figures which are in Mr. Lumsden's notes at the present moment represent the result of an averaging up of the guesses or the estimates of the three arbitrators. Now, it seems to me that it is very important here that this committee should know exactly what was done. Then this committee would be in a position to appreciate what influence all that has had upon Mr. Lumsden in causing him to send in his resignation upon the grounds upon which he did so. I quite agree that it would not be right for us here to do anything that would prejudice the proceedings of any properly constituted tribunal if the matters in question had been referred to that tribunal; but I think that inasmuch as Mr. Lumsden's resignation is based upon his examination on the ground, and those notes represent not only his examination but the results—what shall we say?—the quotient or the average of the three several opinions, it seems to me that it is not going outside the reference for us to ask concerning them.

Mr. MOSS.—Just a word, Mr. Chairman, on that subject. It is one in which I think I, on behalf of my clients, am rather vitally interested. You remember that Mr. Lumsden, in the particulars of his reasons for his resignation, has referred to statements alleged to have been made by engineers on the ground. These statements were made in the presence, and most of them at the instance of and under questions from, the other two arbitrators; and it seems to me that it is important to the engineers in establishing their case, that they should know what was the attitude of those other two arbitrators throughout these so-called arbitration proceedings. I have no desire to enter into it any further than is necessary for that, but I think if Mr. Smith is not allowed to ask those questions I would have to ask the committee to be allowed to do so in that view of it.

The CHAIRMAN.—I think, of course, it would not be proper to divulge any of the evidence given by the parties on the spot; but I see that Mr. Lumsden in his statement said:—

> I based the statements contained in my resignation both on the facts admitted by the engineers on the ground, in May and June, 1909, in their sworn statements made in my presence, and also upon my personal examination on the ground.

While I have my own views, of course, I will see what the other members of the committee will say—whether or not it would not be better to go on and find out what kind of personal examination there was made on the grounds, and what he saw, in what way he proceeded.

Mr. CHRYSLER.—I agree to that, but the further question, at which I stopped, was what Mr. Schreiber told Mr. Lumsden, and what Mr. Kelliher said, or whether they agreed with him. I think his own observation on the ground, and his notes and everything else, and every other experience that he found at the time, quite proper. I would not object to that.

Mr. MOSS.—Must it not be admissible on this short ground—that Mr. Lumsden is asked simply whether these notes represent the result of his own observation or the joint observation of himself and his fellows?

The CHAIRMAN.—Perhaps you might go as far as that.

Mr. MOSS.—That is really as far as the question has gone, I think.

Mr. CLARKE.—Do I understand that these matters you are now asking about are those in respect of which he says he lost confidence?

Mr. MOSS.—Yes.

Mr. CLARKE.—Over those different matters?

Mr. SMITH.—Oh yes, entirely.

Mr. CLARKE.—They are not in the statement he put before this committee.

Mr. SMITH.—As far as I am concerned I will not ask any further question on that—whether those notes represent his own or represent the average.

The CHAIRMAN.—I think you might go as far as that.

Mr. MACDONALD.—Are not those points that you are examining about now included in the list which he handed in to the committee?

Mr. CHRYSLER.—I think so. Some of them I don't identify. They are not in the notes.

Mr. CLARKE.—They are in the returns.

Mr. MOSS.—Some of them are in the returns.

Mr. CHRYSLER.—I think Mr. Lumsden explained that he put those in as illustrations.

Mr. LUMSDEN.—Yes.

By Mr. Clarke:

Q. I understand he has in his note book a great many more, is that so?—A. A great many more.

Q. And he is taking them consecutively now; that is so?—A. Yes.

Mr. CLARKE.—Of course the committee is not supposed to do the work of arbitration; if they were, it would be necessary to go over all of them. I think if a sufficient number of them are gone over to illustrate the procedure of the arbitrators in respect to the matters in which they disagreed with the resident engineers and the district engineers, it would be sufficient. It is not your idea to go over all of them?

Mr. SMITH.—No, it is my idea to go over the 7½ miles.

The CHAIRMAN.—How many more cuts have you?

Mr. SMITH.—About twenty altogether. There are about six more.

Mr. CLARKE.—According to Mr. Lumsden's representations it seems to me there must have been fraud on the part of the resident engineers. I don't see how it could be said that they were acting honestly if what Mr. Lumsden says in his report here is correct, for instance, that there were boulders put in, though there were no boulders in sight at all, as he says. In other places he says there was a good deal of loose rock, but it is all sand and clay. If a return was made of loose rock when it was all sand and clay, I do not see how any engineer could report that as loose rock.

Mr. SMITH.—Well, of course that is a matter that has to be carefully inquired into. If these gentlemen go over that ground a year and a half or two after the work is done and graded and everything else, it may be that at the time it was assembled rock, and that if there were any proper examination made they could find sufficient rock in the neighbourhood or in that embankment or somewhere; but as Mr. Lumsden has told this committee, it would practically cost as much as building the road to make any such examination, and that is the very point that I want to put before this committee.

Mr. CLARKE.—That is the reason I would like Mr. Lumsden to be as definite as he could. I asked the other day what engineers did it, and he was not able to give the names. If there has been deliberate returning of sand for loose rock, that would be something which could be noticed.

Mr. SMITH.—I should think it would.

Mr. MOSS.—Of course, if you walk a cutting a couple of years after it is done, the whole appearance of it is changed.

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Mr. CLARKE.—That may be, but we ought to know where we are at in the matter of contradiction.

The CHAIRMAN.—I think, Mr. Smith, when you get through the six cuts on that 7½ miles, you should be able to establish pretty well what the proceedings were, and that should be enough.

Mr. MACDONALD.—We cannot go outside the reference, nor should we trench on the duties of the arbitrators, because any conclusion we would arrive at would be of no value at all. At the same time, anything that is relevant to the reasons why he lost confidence, we must have, of course.

Mr. SMITH.—And, of course, I might also draw the attention of the committee to this, that the majority of those twenty cuts never objected to by the Grand Trunk Pacific at all, and were never referred to arbitration, because it was only with respect to matters concerning which a dispute had arisen that there was to be an arbitration. Now, we have the fact that those arbitrators spent their time with Mr. Lumsden upon cuts that were not in issue at all, that had never been referred to arbitration; and I want to see how much time was devoted to the examination of those cuts that were in issue.

The CHAIRMAN.—Well, you may go on, but just simply confine yourself to asking Mr. Lumsden if this is his personal examination, or whether he did not agree with the others.

By Mr. Smith:

Q. What is the next cut?—A. 471, plus 85 to 475 plus 20.

Q. How long a cut was that?—A. 335 feet, I make it. I have got to deduct it in my head all the time. It was a small cut.

Q. What note have you there?—A. My notes are, 117 yards loose rock, and 1,817 common excavation.

Q. What had it been?—A. 117 yards solid rock, 1,536 loose rock, and 302 common excavation.

Q. Did those figures represent your individual view or combined view?—A. I can't tell you that. They are my views; I have note of them.

Q. What you said as to the others is correct—you took no measurements?—A. I took no measurements in that cut.

Q. Was that one that was in arbitration?—A. No.

Q. Then pass to the next cut.—A. 481 to 488 plus 8.

Q. That was not in the arbitration?—A. No.

Q. How long was it?—A. 708 feet.

Q. What note have you about it?—A. I have got down 3,463 yards common excavation and 100 yards loose rock to cover possible boulders; that is what my idea of it was.

Q. Are you sure that those are your figures?—A. Those are my notes, I know that; I presume they are my figures.

Q. Why do you presume it, if in the majority of cases you took the average?—A. We did not, but as I tell you, the three of us did not make notes. Mr. Kelliher and I generally talked over matters, sometimes with Mr. Schreiber and sometimes not, but as a rule the three of us talked it over.

Q. These notes would represent the average between you and Mr. Kelliher, anyway?—A. Yes, between me and Mr. Kelliher as a rule; very often with Mr. Schreiber, but not in every case.

By Mr. Moss:

Q. You and Mr. Kelliher did not agree?—A. In some one or two cases we did not.

By Mr. Smith:

Q. It will simplify matters if we are sure that those notes represented the average between you and Mr. Kelliher?—A. I believe so.

Mr. CHRYSLER.—He has not told us what the real thing was from it.

By Mr. Smith:

Q. What was the real thing as determined?—A. 3,207 yards loose rock and 350 yards common excavation.

Q. I suppose that 700-foot cutting would have taken some months to do?—A. Well it would probably take a month and a half or two months.

Q. Now, go on to the next one?—A. 492 plus 30 to 494 ylus 3.

Q. That was not in dispute?—A. No; that is only 99 feet of a cut; there are only 511 yards of it, which I called all loose rock.

Q. What had it been put in as?—A. I have got 50 yards solid and 461 loose.

Q. So all you did there was to cut out the 50 yards solid that was returned by the engineers?—A. And put it in as loose.

Q. Now the next one?—497 plus 30 to 506 plus 30.

Q. That is one that was in dispute and was before the arbitrators?—A. Yes.

Q. How long was it?—A. 900 feet.

Q. Did you make any special examination in regard to it, or just walked through it like the others?—A. I have got no digging in it.

Q. You just walked through it like the others?—A. Yes.

Q. Naturally took no measurements?—A. Took no measurements; I have got no note of any.

Q. How did you change the classification then?—A. I have got the classification as having been given me, 4,909 yards assembled rock, 5,479 yards solid rock, ledge rock, 3,303 yards loose rock, and 35 yards common excavation.

Q. What did you put it in as?—A. I put it in as 4,895 yards solid rock, 7,493 yards loose rock, 1,338 common excavation.

Q. You did not make any very material change there.—A. I changed by cutting out—there were 1,493 yards of overbreak in that originally, counted as solid rock.

By Mr. Moss:

Q. Did you eliminate that altogether? Did you cut that overbreak out altogether?—A. No, I do not think so. I think it has gone in.

By Mr. Smith:

Q. Have you any notes there that will indicate whether that was your own view?—A. No.

Q. Or the view of the three of you, or what?—A. I have no separate note about that at all.

By Mr. Moss:

Q. You cut out the assembled rock there, didn't you?—A. Yes, the assembled rock has gone in as loose rock.

By Mr. Smith:

Q. The engineer's notes on the ground indicated solid ledge rock and the assembled rock in different figures?—A. Yes.

Q. That would seem to bear out the fact that they had measured the ledge rock in all cases?—A. Well, it is supposed the ledge rock was measured in all cases.

Q. You have no doubt it was?—A. There are two or three cases in which we could not find the ledge rock—I don't know anything of this 7 miles—we could not find the ledge rock where it was indicated on the cross-section.

Q. One or two cases only?—A. Several cases.

Q. Several cases out of a very large number of cases; there was nothing systematic about that?—A. No. There were one or two cases where we could not find the ledge rock where it was shown in mixed cuttings.

Q. So that that was quite consistent with their following your interpretation as you further qualified it by your letter of the 30th January, that is, that they measured

all the ledge rock and they measured the assembled rock where practicable, which would be quite consistent with that?—A. Well, the trouble that I was in was that where they showed assembled rock on the cross-section we could not find material that resembled assembled rock.

Q. Of course, you did not see it before it was blasted or actually moved?—A. No. I did not see it before it was moved.

Q. And of course the engineers who classified it did see it?—A. Of course they had the opportunity to see it.

Q. And not only did they see it before it was removed but they saw the ragged edges immediately after it was removed?—A. Yes.

By Mr. Clarke:

Q. What kind of material would you find adjoining where it was classified? Of course they don't call it assembled rock, so would you classify it as solid rock?—A. It goes in as solid rock.

Q. Then what kind of material would you find adjoining the place from which they had taken what they classified as solid rock?—A. In many cases sand and gravel and small boulders, and sometimes clay and small boulders.

By Mr. Smith:

Q. Is it quite possible that clay and small boulders, or sand and small boulders, might have been assembled rock in your definition?—A. No, I don't think so.

Q. Why not?—A. Not if it were two-thirds sand and one third rock.

Q. How are you going to determine two thirds sand?—A. If you find the rock there and only one third, or one fourth, or one fifth rock and the rest is sand you certainly cannot think that is assembled rock.

Q. But have you gone there and examined the cut where those slopes were made and seen the material taken out?—A. I did not see the material taken out but we saw the material that was adjoining it.

Q. And you have told me now with respect to a dozen, or how many—a dozen different cuts?—in fact there was only one in which you disturbed the surface?—A. Yes, the others we didn't.

Q. And would you, Mr. Lumsden, tell this committee that going there a year, or from one to two years, after the work was done, you would arrive at your judgment by looking at the slope, without disturbing the surface at all, and say 'I saw certain small boulders——?—A. Oh, no.

Q. And sand and clay?—A. I am not saying that regarding any one except the one we dug, of what we found.

Q. You only dug in one?—A. We only had dug in one of these cuts you have come to.

Q. But that was the one there was no dispute about that you dug in?—A. I know Mr. Woods disputed that cut.

Q. You know it was not in the arbitration?—A. I know it was not in the arbitration.

Q. And you tell this committee that looking at the side of the slope a year or two years afterwards you could revise the classification——?—A. But I do not——

Q. Of men who were on the ground who saw the material before it was removed and at time, at the moment it was removed?—A. I could see that it had no resemblance to what I was accustomed to see where there had been assembled rock. That was only my own opinion. That is what I say, I may have been wrong; and consequently rather than go on I thought I would resign.

Q. There was sand and small boulders in the clay. That could have been assembled rock when it was assembled together?—A. Not unless there was a very much larger proportion of rock in it than there was sand and clay.

Q. Well on the outside surfaces you think there was not a sufficient proportion of rock?—A. In some cases there was very little rock.

Q. There was very little rock on the outside surface as far as you could see?—A. I saw all those cuts where we didn't dig.

Q. All you saw was the outside surface?—A. All I saw on the outside surface was the outside.

Q. If it had been dressed down would it not have been dressed down by smaller material?—A. In some cases.

Q. Would it not have been dressed down by smaller material?—A. Smaller material very likely might have run over.

Q. You think it might have run over. And you formed your judgment condemning your engineers on that?—A. I simply formed my judgment on what other cuts I have seen looked like it, and what I knew was in them.

By the Chairman:

Q. That was the way you proceeded?—A. That is the way I proceeded. We didn't in every case dig into a slope.

By Mr. Smith:

Q. You have only done it in one out of sixteen?—A. There were a great many of them.

By Mr. Clarke:

Q. In a case like that would you not bring it to the attention of the engineer who had to classify it to get his explanation of it?—A. In some cases I think we did. In some cases we didn't.

Q. Well let us take the next one?—A. 513 to 518 plus 75.

Q. That is another one that was in dispute, that was under arbitration?—A. Yes.

Q. How long was that? That would be 600 yards?—A. No, 575 feet.

Q. What you have said applied to that; you took no measurements, and you took no diggings?—A. No, took no measurements.

Q. How did you correct the classification there according to your view?—A. There were 956 yards of ledge rock returned and 995 yards of loose rock. That was the return given us.

Q. Yes.—A. And I used it as 480 yards of solid rock and 1,900 yards of loose rock.

Q. That is you took the total quantity which they had given you?—A. The same total quantity.

Q. Yes.—A. And varied the classification.

Q. Varied the classification just by walking through and looking at it?—A. Yes.

Q. How many more are there in this first 7½ miles? That is 17 now. Give us the other three, what was the next one?—A. The next one is a borrow pit. It is left as it was, I didn't make any change in it.

Q. Why?—A. I don't know. I have got no change made in it.

Q. Why didn't you change it as you changed the others?—A. I can't tell you the reason why. I have got no change in my notes. I have got scored out.

By Mr. Moss:

Q. That is the whole of your notes about that borrow pit?—A. I have got a borrow pit. '5,013 yards loose rock, station 521 plus 96, but it is scored out. I have got no notes of it.

By Mr. Smith:

Q. Give us the next cutting?—A. The next cutting is 563 plus 80 to 566.

Q. Did you not look up 528 to 547? That is one of those in dispute?—A. Oh I see. I have got 529 and 547 in a bracket under the other.

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By Mr. Chrysler:

Q. Under the borrow pit?—A. Mixed up with the borrow pit.

By Mr. Smith:

Q. And it didn't interfere with it?—A. It didn't interfere with it. I have got it scored out.

Q. The next one is 553——?—A. Plus 80 to 556.

Q. Yes, how much is that 1,300 feet?—A. That is 1,200 feet.

That was a good long one. Did you make any special examination?—A. We dug in that one.

Q. You did?—A. Yes.

Q. Have you got a note of digging it?—A. Yes, at station 558 plus 50.

Q. How much did you dig?—A. We dug down three feet nine inches into the bottom. This was a cut in which the cross-sections—I am talking from memory—the cross-sections started exactly at the sides of the cut and came in a peak in the middle, and there was nothing shown that could be shown on the edges at all, and it followed the curve, followed around the curve, for two or three hundred feet, and the only place we had a chance to find out what was in it was to dig down in the formation, between the ties in reality. We dug down there at 558 plus 50, six feet south from the centre of front 3.8 feet; good ballast. From appearances this whole cut is common excavation but may be a few yards of rock in boulders.

Q. What was the position of that cut?—A. It is on a steep side hill.

Q. How does it face?—A. It faces north. That is there is a lake to the north of it if I remember.

Q. It faces north on Lost Lake?—A. On Lost Lake.

Q. And the lake there has an open sweep of five or six miles?—A. I should not think it is as large as that but it is a good sized lake.

Q. There is a long sweep light on that cutting from the lake?—A. Yes there is quite a sweep from the north and northwest.

Q. Would you call that a side hill cut?—A. Yes.

Q. You told us the other day that you had no fault to find with regard to frozen material on District 'F'?—A. On District 'F'? No on District 'B.'

Q. And you said you hadn't on district 'F' either?—A. I didn't say I had no fault to find with regard to frozen material, I was not making any particular kick about frozen material.

Q. In a cut of that kind how deep would the cut penetrate?—A. Oh it would depend upon when the snow came, how much snow fell on it before the frost came. Some seasons there may be very little frost and others a great deal.

Q. It was a very exposed cut, wasn't it, as a matter of fact?—A. Yes that cut was exposed.

Q. The probability is that the frost would penetrate very deep there, would it not?—A. It might.

Q. Do you know when the work was carried on in that cutting?—A. No, I can't say that.

Q. Do you remember giving any instructions with regard to having the grading of 40 miles ready from Lake Superior Junction west, do you remember giving any special instructions?—A. I don't recollect distinctly, but the probability is that I did, that is to rush the construction.

Q. So that track could be laid as soon as——?—A. The snow went.

Q. As soon as the Grand Trunk Pacific got through from Fort William to Lake Superior Junction?—A. Yes.

Q. In the fall of 1908?—A. I think it is very likely.

Q. You don't know really when that was taken out?—A. No.

Q. Was there any suggestion when you were there about a strip being taken out with a steam shovel on the south side of the very same cut?—A. No, but I have some recollection of thinking that there would be a good lot of ballast brought out from this very same cut.

Q. I suppose a steam shovel would work through very hard material?—A. Yes.

Q. In some cases it would work through material that you would classify as loose rock?—A. Oh, yes. Sometimes you can by blasting it use what you would call sometimes solid rock.

Q. Well take a steam shovel of 60 or 70 ton?—A. Oh it will move pretty hard material.

Q. Do you remember anything about the contractors saying that they would not attempt to use a steam shovel there?—A. No.

Q. That they could not work with it?—A. No, I don't recollect that.

Q. If that material were absolutely frozen material at the time it was taken out, and your instructions were to rush that 40 miles, how would you classify that?—A. I don't think——I don't see how that could have had an enormous amount of frozen material in it because it was very deep in one portion of it. My recollection of it is that the cut must have been on the upper side of 30 or 35 feet deep and ran down to—on the outer side there was probably very little, it had all been scooped, barrowed away when I was there.

Q. How long would the frost remain in that country?—A. It would remain in pretty late some seasons.

Q. I suppose until the month of June?—A. Well it might.

Q. When you spoke of the depth of that cut on one side. You have already told us that it was a side hill cut.—A. Yes.

Q. So that it is not a fair criticism of yours to say it was deep and therefore not exposed?—A. Oh well yes, but one side of it was. Of course I could not tell when I was on the ground how deep the centre was because it was gone. But I should judge merely from recollection it must have been 25 or 30 feet high on the upper side.

Q. Do you know that cut was begun in March with the object——?—A. I don't know when it was begun or when it was finished.

Q. You say the cut would be 30 or 35 feet deep?—A. I am only talking from memory, 25 or 30 feet possibly on the higher side of it, the maximum.

Q. You have no idea how high it was in the centre?—A. No.

Q. Well, my instructions are it was a great deal more than you say, and that it was 40 feet?—A. It may have been. As I say, I am only talking from memory.

Q. And that the opening would be 140 feet wide and 40 feet high?—A. This cut? I don't think that was the same cutting. I don't think the lower side would at any time have been six or eight feet high.

Q. This same cut we are now describing?—A. As I say, I never saw the cut until it was taken out.

Q. Well, supposing you had 3 feet of frost, that would be 15 yards, wouldn't it?—A. Yes.

Q. Of loose rock on the surface to every foot in length? And that would give you 1,500 yards for every 100 feet, wouldn't it?—A. Well, I don't know, I am not figuring it.

Q. I have got the wrong station.—A. I thought so.

Q. You didn't take into consideration when you said that ought to be common excavation, the fact that it might have been frozen material?—A. Oh, there might have been some frozen material in it, certainly.

Q. Do you know it was begun in the month of December?—A. I don't know when it was begun or when it was finished.

Q. Have you not any information of that at all?—A. Not of when it was finished.

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Q. Did you not get that from the engineers on the ground?—A. I got no notes of it. I have no recollection of getting them.

Q. Did you ask the engineers about it?—A. I don't recollect having done so.

Q. Well, Mr. Lumsden, when you found what struck you as an extraordinary cut—?—A. They produced cross-sections of that cut.

Q. Who do you mean by they?—A. The resident engineers.

Q. Well, didn't it occur to you to question them at all as to their classification differing from what you thought the appearances indicated?—A. What I was troubled about was the very peculiar cross-sections.

By Mr. Moss:

Q. Who was the resident engineer on that cut, Mr. Lumsden?—A. I think it was McHugh, but I am not positive.

Q. McHugh had a fire, but he was not in his camp?—A. Yes, McHugh had a fire in his camp.

Q. Four or five months before the arbitration, and had lost his notes; his notes had been burned?—A. Yes, but he produced, he had cross-sections of that cut, I remember that perfectly well.

By Mr. Smith:

Q. And you asked him no questions at all?—A. Well, I am not prepared to say that we asked no questions. I think we examined McHugh, and I think his evidence is in there (referring to Exhibit 3a, page 93 of the evidence.)

By Mr. Chrysler:

Q. Now this is one of the cuttings that figure in your notes, Mr. Lumsden, as handed in, at least in the extracts from your notes. Are those extracts which were put in as Exhibit No. 2, 'Illustrations of places where material returned as solid rock should have been loose rock,' copied from your note-book? Do you remember where they came from?—A. I must have had them copied from the same note-book.

Q. Extracts you got for the committee from your note-book?—A. Yes.

Q. And the original of that exhibit are the notes which you are now reading from your note-book?—A. Yes.

Q. If you look at page 82 you will find the station which you have been dealing with just now from your notes. It is the second one from the bottom. (Reads) 'Solid rock, 4,730; loose rock, 9,672; common excavation, 2,807' ?—A. Yes.

Q. Are these figures in your note?—A. Yes.

Q. Then the note with regard to that is: (Reads):

'Sta. 558—50. Dug down 6 feet south from centre of front 3.8 feet; good ballast; from appearances this whole cut is C.E., but may be a few yards rock in boulders.' What is 3·8 feet, three decimal eight?—A. Yes.

Q. Then that is your note?—A. Yes, that is the same note that I have got here.

Q. What did you do with that particular cutting? Did you make any change in the classification or did you leave it with that note for further classification?—A. As far as I can see I have got no—(after making search)—I don't find any further note on that.

Q. You don't find any further note with regard to that cutting?—A. No.

Q. Now, the profile that was shown you, you have no note with regard to that?—A. No.

A. You recollect the profile of this cut?—A. I recollect.

Q. You recollect it was the sort of cut Mr. Smith has been speaking about, a side hill cut on the south side of Lost Lake?—A. Yes.

Q. It is identified in your memory?—A. Yes.

Q. Who showed you the profile?—A. One of the resident engineers or one of the engineers on the ground.

Q. You don't know what his name is?—A. I am not sure whether it was McHugh or whether it was——

Q. Did the division engineer accompany you on this occasion?—A. Well, I think so.

Q. What was his name?—A. Richan, I think.

Q. He was responsible along with McHugh for the classification for that cut?—A. Yes, there were some changes made in some divisions, but I think he was in there all the time or most of the time.

Q. Does that make any difference, supposing that the work has extended over two years, 1907-1908, the divisional engineer is employed for the year 1907, and he leaves and a new divisional engineer comes in in 1908 and takes up his work. Is not the second engineer responsible for the classification in the case of work that has not been completed and the final estimate given?—A. Yes, where the work has not been completed.

Q. That was the case with this, was it not?—A. I presume so. I am not sure when he went in there; I don't know the date.

Q. If Mr. Richan was there and had succeeded an earlier divisional engineer, Richan would still be responsible for the classification as it stood at the date you visited it would he not?—A. Richan would be in the same position as if he had not seen it when it was worked at all. If he had not seen it he would be in the same position as we were.

Q. Except that his acquaintance with it would be much more intimate than yours?—A. Yes.

Q. But he had the authority, I mean to correct the work of his predecessor, or if he did not correct it on his own initiative it was his duty to report to you if he thought there were mistakes?—A. Yes, or report to the district engineer.

Q. What is it you recollect about the cross-section that was peculiar?—A. What was returned as rock, did not appear on the sides at all. It started, according to my recollection, exactly ten or eleven feet out from the centre on one side, and ten or eleven feet out from the centre on the other side, and rose up to a peak in the centre.

By Mr. Moss:

Q. Are you speaking now of the recollection of this cross-section?—A. I am simply speaking of the recollection of the cross-section.

By Mr. Chrysler:

Q. There was more than one cross-section that you saw?—A. According to my recollection there were three or four cross-sections I cannot say the number; I am talking entirely from memory.

Q. As you illustrated there what would show on the cross-section may be a mass of rock, wider at the base and rising in the shape of a pyramid?—A. Yes.

Q. On the cross-section?—A. Yes.

Q. What do you mean by saying there was something peculiar? Is there anything peculiar about that? Is that not a common appearance in——?—A. That it should have followed the centre of the curve for, I think, two or three hundred feet without ever getting on the outside at all, but being right out to the very edge and following it around for three hundred feet.

Q. Well, how are the relative quantities of rock, solid rock, loose rock, and common excavation plotted on these cross-sections. They must be to some extent conventional?—A. They are defined by a line on the cross-section.

Q. But inasmuch as your cross-section is only taken at intervals it can only show an average?—A. It shows at those points at which points it was taken.

Q. It shows the actual line of the rock at the point at which the cross-section is taken?—A. Yes.

Q. Well, where would those cross-sections be now. Whose duty is it to have them?—A. I presume there may be copies in here now; I do not know; I cannot tell you.

Mr. CHRYSLER.—I suppose we can get them?

Q. Do I understand you to say, Mr. Lumsden, that a district engineer or a divisional engineer going there is responsible for the work done previous to his going there, any work which he did not see at all?—A. I think he would be in the same position that we were as far as knowing how the work went.

Q. Talking about his responsibility, had he anything to do with it. He made no return concerning it?—A. No, but if he went there and found the return was wrong—

Q. He would be under the obligation to make a report?—A. That is what I mean. He would be obliged to correct it.

Q. You do not pretend he had any jurisdiction?—A. I mean to say that if he went there and found it was wrong he ought to have corrected it.

Q. He ought to report these matters to his superiors?—A. Yes.

By Mr. Clarke:

Q. Would it be his duty to go there?

By Mr. Chrysler:

Q. As I understand it, the way in which this is done is that the return is made monthly by the resident engineer in charge?—A. Yes.

Q. And it is cumulative?—A. Yes.

Q. And it is approved of by the divisional engineer?—A. Yes.

Q. And it is cumulative that is to say, the month of July included the work that has been done from January up to July?—A. It shows the work done from January to June, and what was done in July separated.

Q. But still that included from January to June, as well as the work done in the actual month?—A. Yes.

Q. Well, supposing that a change takes place then in the month of August, a new engineer comes, he is responsible in the first place for the correct return of the work done in August?—A. I don't think you could hold him responsible for the correctness of the work before August.

Q. Does he not certify to it when he makes a return for August? Does he not include a return of the work from January to July, inclusive, and certify to it?—A. He certifies to it on the strength of his predecessor's certificate, and I presume——

By Mr. Moss:

Q. He certifies it as previously returned.—A. Yes.

By Mr. Chrysler:

Q. If he knows that it is wrong then what is his duty?—A. I think he should call the attention of the district engineer to it.

Q. Not himself to correct it?—A. If he made a correction he should call the attention of the district engineer to it.

Q. How could he correct it?—A. He might find some palpable error.

By Mr. Smith:

Q. If he finds a clerical error of one figure for another or anything of that sort?—A. He may find a very material error. An error of a thousand yards or something like that in the addition, or something like that.

Q. It would be the duty to call the attention of his superiors to it whatever it was?—A. Yes.

Q. Would you say for one moment that an engineer going there would have jurisdiction to revise the total quantities that had been returned by two or three engineers before him?—A. That would depend whether he could revise them.

Q. How could he tell?—A. If he took only general cross-sections and they were right——

Q. How could he tell the total quantity? How could he tell anything about the classifications?—A. He might be more at sea under the total quantities.

Q. At classification he would be very much at sea?—A. He would be somewhat at sea.

By Mr. Chrysler:

Q. Just take this case of the station that we have been talking about, if in the middle of the work upon that cutting a new engineer came on and the work was half done, would it be his duty to go on continuing material as solid rock and loose rock when there was none there at all?—A. I should say certainly not.

By Mr. Moss:

Q. If the return up to that date had shown a certain amount of solid rock and a certain amount of loose rock and he goes on then, and the new work that is done under his supervision—he has to classify according to his judgment, but for the work that is already returned, do you mean to tell us that he has the right to make any alterations in the return?—A. I think if he believed the return previously made was wrong, he should call the attention of his superior to it.

Q. If he believed that it was wrong, it was his duty to call the attention of his superior and the superior would take action, but the resident engineer or the divisional engineer would have no jurisdiction whatever to alter any return that had already been made, would he? It would be past his jurisdiction altogether, would it not?—A. You are talking of a new engineer coming in? Yes.—A. I think if there was anything wrong he should immediately report it to his superior.

Q. It would be wrong for him to correct it in his own return,—not only it would not be his duty, but it would be wrong to do so?—A. If he had done it, he should notify his superior officer, and the reason for doing so.

Q. Should he do it at all as a matter of discipline in the service?—A. If he knew it was wrong it would be no sin for him to do it and call the attention of his superiors to it.

Q. Would it be regular for him to do it?—A. I should think the better plan would be to call the attention of his superior to it.

Q. Now, be frank with me, would it not be irregular for him to do it?—A. I won't say what I would feel like doing but I would call the attention of my superior to it.

Q. That is what you would expect your inferiors to do?—A. Yes.

By Mr. Smith:

Q. But does that come to anything more than this, that if a stranger were in one of those cuts and he saw some of the material removed and it was obviously common earth and he knew it was being returned as rock, if it was a stranger that was there, it would be his duty to notify somebody?—A. Probably it would not be a stranger, because he would have nothing to do with the work.

Q. But it is the duty of every honest man to suppress fraud. Would you pretend for a moment that a new engineer going there would have any right to disturb the figures that had been returned from month to month? If he thought it was wrong it would be his duty to have it inquired into?—A. Yes.

Q. That is all it comes to, is it not?—A. Yes.

Q. Just let us get this system. The monthly returns are made in a very formidable form, are they not?—A. Yes.

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Q. It is a very long document, is it not, a yard and a half or a yard wide at least?—A. Yes, a good long sheet.

Q. With a whole long line of figures?—A. Yes.

Q. And as my friend, Mr. Chrysler, has pointed out, in this is carried along the total returned of each classification up to that date?—A. Yes.

Q. And there is the total for that month. The difference representing the work that is done during that month. Each month shows you the total, is not that correct?—A. I think there are really three, the amount previously returned, the amount done during the month, and the total up to the end of the month.

Q. Then that is certified by the resident engineer?—A. Yes.

Q. Now it has to be certified by more than the resident engineer?—A. Yes.

Q. Who else certifies it?—A. The divisional engineer.

Q. And the district engineer has also to certify it?—A. Yes.

Q. He has to sign it each month?—A. Yes.

By Mr. Clarke:

Q. What has the divisional engineer to do with it?—A. He is supposed to be over the work once or twice every month.

By Mr. Smith:

Q. He is supposed to go there and satisfy himself as to the classification, is he not?—A. Yes.

Q. And then the district engineer in a more general way, perhaps, has a more general supervision, but he carries responsibility also, does he not?—A. Yes.

Q. At all events, every one of those three have to certify and to sign each of these monthly returns?—A. I am not clear as to whether the district engineer signs the individual returns or whether he signs the summary.

Q. Every one of those are certified and signed first by the residential engineer, then by the divisional engineer, then by the district engineer, each monthly estimate?—A. I have my doubts whether after they are returned by the resident to the divisional whether they are signed by the district engineer after or not.

Q. Yes, they are all signed. Then they go to you as Chief Engineer?—A. Yes.

Q. You have to pay your money then? You have to give your certificate to pay money on them?—A. Yes.

Q. Each monthly statement goes to the Chief Engineer?—A. Yes.

Q. So the Chief Engineer has to carry responsibility of the same character as the district engineer?—A. Yes.

Q. Upon these, of course, the money is paid out? Do you make up a separate progress estimate yourself as the Chief Engineer?—A. We make more of a summary, condensed in much smaller space.

By Mr. Clarke:

Q. I am not clear about these cross-sections. When are they made? Is it before the excavation?—A. They are generally not made until after the excavation is pretty well done.

By Mr. Smith:

Q. Mr. Lumsden, about these monthly estimates, or returns—after they were handed to you—I won't say what they are doing now, after they were handed to you, what did you do with them? Did you sign them?—A. Not the big long sheets you refer to, I did not.

Q. You said you made a summary of them?—A. They were made from another set, not from the very long sheets.

Q. What were they made up from?—A. As far as I was concerned, I hardly ever used to see these very long sheets.

Q. But what were they made from?—A. From the district engineer, who was near to me.

Q. At all events, finally you certified them to the engineers and signed them?—A. I did not certify them to the engineers.

Q. You certified them to the commissioners?—A. Yes.

Q. Each month, as approved by yourself?—A. Yes.

Q. Before the Board of Commissioners could pass them they had to be so-signed and approved by you?—A. Yes.

By Mr. Clarke:

Q. At what stage does the resident engineer of the railway do his inspecting?—A. I beg your pardon.

Q. At what stage does the resident engineer of the railway do his inspecting?—

By Mr. Chrysler:

Q. For the Grand Trunk Pacific?—A. They had men out on the work.

By Mr. Clarke

Q. All the time?—A. All the time; one or two men in the district.

Q. Does he compare notes with the resident engineer of the Commission as they go along?—A. They did nearly all the time; I believe they were continually in touch with the engineers on the work.

By Mr. Moss:

Q. Did they get copies of the monthly returns?—A. Yes.

By Mr. Smith:

Q. As a matter of fact, are these monthly returns or estimates not in all cases sent each month to the Grand Trunk Pacific?—A. I believe so; yes, they are.

Q. So that the Grand Trunk Pacific have their engineers on the ground and they have the fullest possible privilege of inspection?—A. Yes.

Q. And in addition to that they get the monthly returns, the long sheet with all the details and all the information that the Commissioners have in each month transmitted to the Grand Trunk Pacific?—A. Yes.

Q. They get those, as I understand it, from the district engineers?—A. They are given them on the ground.

By Mr. Clarke:

Q. How did the disputes arise? Was that from the inspection made by the resident engineer of the Grand Trunk Pacific or by some superior officer?—A. They were protests made by the Grand Trunk engineers.

Q. Which ones, resident engineers?—A. No, they were made by the men they had on the ground, to the assistant chief engineer in Montreal, to Mr. Woods.

Q. Were those made at the time the classification was being made by the resident engineers of the Commission?—A. From time to time after the classification had been made.

By Mr. Moss:

Q. Do you know anything about those objections by the resident Grand Trunk Pacific engineers?—A. No, I know Mr. Woods' objections were sent in to me.

Q. You do not know anything about the resident engineer's objections?—A. No.

Q. Don't give us evidence about anything you don't know.—A. I don't know.

By Mr. Clarke:

Q. Do you know if he got those objections from his subordinates?—A. No.

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By Mr. Moss:

Q. I don't exactly understand how or why it was raised but it seems to me that Mr. Lumsden was throwing some new aspersions possibly at some of the engineers when he said it was their duty to go back and revise the work which had been already certified?—A. I beg your pardon, I did not mean to say anything like that.

Q. That was the impression I got from your first answers and I would like to get that perfectly cleared up now so that we need not come back to it. Am I right in saying now that you do not suggest for a moment that it was any part of the duty of a new engineer going on work already certified to make any criticism or inspection of the work already done; to make any change in the figures, or to make any investigation?—A. I think he would be perfectly right to make any criticism that he thought fit, that might appear to him.

Q. Was it his duty to make any criticism or investigation?—A. If he saw anything that was wrong he should tell his superior.

Q. If he saw anything that was wrong, it was his duty to call it to your attention, but was it his duty to go there and look to see whether anything was wrong?—A. He ought to be out over the same work that the other man was.

Q. I know, but he would not have any better way of telling whether there was anything wrong than you would. The work was already done?—A. No. Except being on the ground all the time. He would have more time to look after anything if he thought there was anything.

Q. Do you suppose that there was anybody here who signed as a new man and did not do his duty with regard to work which had already been done?—A. No, I do not. That was not in my head at all.

Mr. Moss.—I do not see why in the world the subject was brought up at all for we were talking about it for half an hour.

Mr. Chrysler.—I think it is important to understand that when an engineer leaves, his successor is supposed to have some responsibility for what has been done from the beginning.

Mr. Moss.—How has he any? Does Mr. Lumsden say he has a responsibility for what was done before, or is not the responsibility shifted to the Chief Engineer?

The Witness.—It is rather a hard question for me to answer whether he has any responsibility.

By the Chairman:

Q. That is to say, if I understand you well, when the work is terminated and a new engineer comes along, he is not obliged to go back and inspect the work that has been done before. If he goes over the work and finds some fault then you say it is his duty to report?—A. Yes.

Q. But he is not obliged to go back and inspect the work that has been done. Is that what I understand you to say?—A. I do not think he is obliged to go back and look over the work that has been done before, but he is obliged to report it.

By Mr. Moss:

Q. At any rate, you don't suggest now that any engineer was derelict in his duty, which he had not done previous to his coming on the ground?—A. No, I had no reference to that at all.

By Mr. Chrysler:

Q. Does the district engineer keep copies of the certificates sent in to the Chief Engineer?—A. Yes.

By Mr. Smith:

Q. One final question, to resume the matter, you said it would be his duty if he found anything wrong, and I think you just told us now that he would be in a much better position than you, going out there to make an examination owing to his much

greater knowledge, being there from time to time, than you had, walking through?—A. Yes.

Q. That is clear?—A. Yes, I say that.

Q. That he would have much greater opportunity and have much more knowledge and be in a much better position than you were, being there and walking through?—A. Yes.

Q. But you added as regards classification, he would be very much at sea?—A. He would be in about the same position we were in.

Q. He would not be in the same position, if he knew a great deal more about it; he would be in a much better position than you. He would have much more time to investigate it.

Q. So that he would be in a much better position owing to his having greater opportunities and more knowledge than you would. That is clear.—A. He would be on the work more than I did.

Q. But you did add, and they were your own words, they were not suggested by me, that he would be very much at sea with regard to classification?—A. You started talking about the section of a cut, then you got off on classification.

Q. You mentioned the question of measurements?—A. I mentioned the total measurements of the cross-section in the cut.

Q. Then you said he would have the measurement of the cross-section?—A. Yes.

Q. Then when we came to the question of classification you add those words that he would be very much at sea on classification.—A. He would be at sea, just in the same position as we are at sea.

Q. Now you would be so much more at sea in proportion?—A. Not being as much on the work as he was.

Q. In proportion as he had much more knowledge of the work than you had?—A. No.

Q. Let us finish up the cuts. What was the last one? We got down to 18, I think?—A. What is the last number you have got?

Q. 555 plus 80 to 556.—A. 571 to 577 plus 20.

Q. 571 to what?—A. To 577 plus 20, 623.

Q. That was also in the arbitration?—A. That was also in the arbitration.

Q. What notes have you also about that?—A. I have got 5,794 yards of ledge, 812 yards assembled, 4,412 yards loose rock, 410 yards of common excavation.

Q. That is what the engineers gave you?—A. Yes.

By Mr Chrysler:

Q. Solid rock, 5,794 yards?—A. 5,794 yards, overbreak, 1,599 yards.

By Mr. Smith:

Q. How did you change that? What did you make that?—A. My note is 4,000 yards of solid rock, 1,000 yards of loose rock, 7,513 yards of common excavation.

Q. What do you do with overbreak?—A. The overbreak is turned into one and one-half times common excavation, as common excavation.

Q. On what principle?

Mr. CHRYSLER.—Simply because it was used in the embankment, used in the fill or something.—A. I have a note in that cut, 'Not bad gravel in this.'

By Mr. Smith:

Q. What was that used for, for ballast?—A. Ballast, yes.

Q. It was evidently a rock cut, when you made this estimate of 4,000 solid rock and 1,000 loose rock?—A. There was some rock in it; it might have been all in one end and the other end might have been all gravel.

Q. You cannot tell where it was originally?—A. No, I do not remember that

individual cut. All I know, it appeared to me there were about 8,000 yards of other material than rock in it.

Q. You mean it appeared to you that there was that material?—A. Yes.

Q. Of course you don't know what there was in it?—A. I didn't see the actual material.

Q. Now do you know whether that represents your own view?—A. I have no particular note about it.

By Mr. Moss:

Q. You turned all the overbreak into common excavation?—A. No, not quite all of it.

Q. There is some waste?—A. The difference is apparently we allowed 165 yards of overbreak and turned the rest of it into common excavation.

Q. Into common excavation, you did not measure for that of course?—A. Oh, no, no.

By Mr. Macdonald:

Q. On what principle did you make that division?—A. If it wasn't necessary overbreak and it was made use of in an embankment to fill up they should be paid what it was worth as common excavation.

Q. You explained that the other day.

Mr. SMITH.—Mr. Macdonald's question went a little farther than that.

Mr. MACDONALD.—Yes, how did he make the division?

By Mr. Smith:

Q. On what principle did you change 5,794 of solid rock into 4,000 yards of solid rock?—A. By deducting the overbreak in the first instance, except 165 yards which was allowed to go.

Q. Was that the only change, practically, in connection with that overbreak?—A. In deducting the overbreak less 165 yards of it.

By Mr. Moss:

Q. You selected 165 yards by the same principle of guessing?—A. The 165 yards was a mere guess.

By Mr. Smith:

Q. You are not aware of any figures?—A. We did not measure them.

Q. Is that the last cutting of that 7½ miles?—A. I think so.

Q. See if you have any other?—A. This is beyond the point I was taking the 7½ miles, I do not know whether it is included in the seven miles or not.

By the Chairman:

Q. You have got beyond the seven miles?—A. Yes, I have got beyond it.

By Mr. Smith:

Q. You told us you had twenty cuts in that first day's work?—A. I said about twenty. I may have been mistaken.

Q. I thought you counted them up?—A. I did, but there is one cut for instance goes back in the other which I omitted, I may have counted one more or one less in it, I have counted up to where we stopped the first night, but this one is beyond that.

Q. You began the inspection on the 22nd of May and you went over it again on the 23rd?—A. Yes, we began on Saturday and we spent the time until Sunday night on that—until Sunday afternoon, we were back there at 2.30.

Q. You are not able to tell us how many hours you were there altogether on the work?—A. No.

Q. Were you able to tell us what hour you started on the 22nd?—A. Not on this work.

Q. You were some hours on the 22nd and some hours on the 23rd on it, that is practically all you can tell us?—A. I can't tell you what time I started on the 23rd, I know when we got back to Lost Lake it was 2.30 in the afternoon.

Q. So that you could not have been more than half a day on it anyway?—A. That is on the second day, Sunday.

Q. So that if you were back at Lost Lake somewhere about 2.30 you could only have been part of the morning on it?—A. Just wait a minute. (Consults notes). I have a cut in this that is beyond the lake, but it was, it may be included in that same seven miles.

Q. Was it on the first day's work?—A. No, it was on the second day, on Sunday, after we got back to Lost Lake we apparently walked on to this cut.

Q. Tell us what it was?—A. Station 611 plus 25 to 619 plus 25.

Q. Yes, that was in arbitration?—A. Yes.

Q. How long is that, 700 feet?—A. 800 feet.

Q. What notes have you about that one?—A. I have the returns that were given to me, they were solid rock, 3,612, loose rock, 2,408, and common excavation, 1,915.

Q. How much was the solid rock there, 3,612?—A. 3,612, I have it as rock, I haven't it as ledge rock, I don't know whether it was solid.

Q. That is 3,612 of solid rock?—A. 3,612 of rock, I have 'rock,' I can't say whether it was ledge rock or not, you know.

Q. What about loose rock?—A. 2,408.

Q. 2,408 of loose rock?—A. 2,408, and 1,915 of common excavation.

Q. Give me all the notes you have about that cut?—A. 'McHugh says classified cut by percentages.'

Q. That is of that cutting?—A. Yes, that is what he says. That is the note I have on that cutting, 'Classified cut percentages.'

Q. Is that the only note you have?—A. Oh no.

Q. What else have you?—A. My memorandum of what it appeared to me to be is 135 yards of solid rock in boulders, 3,800 of loose rock and 4,000 yards of common excavation.

Q. Now could you give us anything at all that guided your guess or estimate of that cutting?—A. I can't give you any details of what guided me.

Q. You have nothing at all you can give us?—A. Except that it was what I saw there.

Q. What did you see?—A. I didn't see much rock, that is the only thing I judge from these notes.

Q. How far did you look for it?—A. I can't tell you how far.

Q. Did you make any digging at all there?—A. No, I have no notes of any digging.

Q. Then I understand you discarded the classification of 3,612 yards of rock?—A. Yes.

Q. You simply wiped that out altogether, and you are not able to tell us on what information you acted or what you based your opinion on in making such a sweeping change as that?—A. I can't tell you, not without being on the ground, what I based it on.

The CHAIRMAN.—Is this the last cut?

Mr. SMITH.—That was the last cut on the district.

By Mr. Smith:

Q. Are you able to tell us now particularly with regard to this cut, this was 612, was it?—A. 611 plus 25.

Mr. CHRYSLER.—To 619 plus 25.

Mr. LUMSDEN.

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By Mr. Smith:

Q. Can you possibly tell us whether these figures are your own individual opinion or your opinion averaged with Mr. Kelliher's opinion?—A. I can't tell you.

Q. That would be very valuable to us if you could give us that?—A. I am not prepared to give you that for I don't know it.

Q. Could you tell us this, the fact is, is it not, that your opinion was more nearly in accord with the classification than the opinion of Mr. Kelliher was?—A. Sometimes it was, sometimes it was not—I am not referring to this particular cut because I don't remember anything about it.

Q. Take it in general, take it all through, wasn't your opinion—?—A. Not invariably.

Q. I don't say invariably, I will say generally?—A. I won't say generally, I don't know, in some cases I didn't agree with him, some places I was above and some places I was below him.

Q. The fact that you had an average showed there was a difference, what I wanted to get at is this—you know his claims were pretty extreme, weren't they?—A. I don't think they were in every case, I don't think so.

Q. Not in every case, but in most cases?—A. I don't think they were exceptionally out of the way in most cases.

Q. Exceptionally out of the way?—A. Yes.

Q. Isn't it a fact that he was claiming more than you were willing to allow all through?—A. No, he wasn't all through.

Q. Have you had any information concerning this particular cut since that visit?—A. Not that I know of.

Q. Have you any information at all as to a full examination that has been made and as to the complete uncovering of it since?—A. No. I haven't heard a word of it.

Q. Now, I think you told us you are not able to give us any information at all as to the time spent on the cuts that were in dispute and the time spent on the cuts that are not in dispute?—A. No.

Q. What did you want Mr. Kelliher's opinion for at all in those matters that were not in dispute?—A. I didn't want his opinion on it.

Q. Why should he examine them, why did he?—A. Both he and Mr. Schreiber wanted to examine the whole work as they went through.

Q. Did you average your opinion with Mr. Kelliher's, and in many cases with Mr. Schreiber's, not in all cases, but I understood that in all cases these notes give the average of your opinion and Mr. Kelliher's and in many cases the average opinion of the three?—A. Yes, in some cases.

Q. Now, why should these gentlemen have expressed any opinion at all of these cases?—A. You will have to ask them, I can't tell you; they made the suggestion in the first instance that we should examine every cut, and we did.

Q. I won't ask them this, but I will ask you this: Why did you put down in your book the average opinion of yourself and Mr. Kelliher when he had nothing to do with it?—A. Simply because we started in and did the same thing all the way through, whether the cuttings were in dispute or not, so far as that portion of it went.

Mr. MACDONALD.—Did you appreciate the importance of the fact that under the statute what was referred to you as arbitrators were only the portions that were actually in dispute? The country regards that clause in the agreement as one of protection in regard to all these questions, and I may say that I can hardly conceive that you went beyond the disputed items and confused them with the remaining portions of the work. Why did you do so?—A. Oh, personally, I would have liked to examine every cut, so far as I was concerned.

Q. But you knew that Mr. Schreiber and Mr. Kelliher had nothing whatever to do with the rest of it?—A. Oh no, they had nothing to do with it, certainly.

Q. I can't see why it should have been done. It would have been in the interests

of the country if you had told them that you were only there to deal with matters that were objected to by the Grand Trunk Pacific.

By Mr. Smith:

Q. Even supposing Mr. Lumsden, that you wished to get the information for yourself, why should you put down in your notebook the average of his opinion, why didn't you put down your own opinion?—A. Well, as a rule, I put down my own opinion, sometimes I put down nothing until we talked the matter over.

Q. But you told us these figures represent the average of your opinion and of Mr. Kelliher's opinion and that in certain cases you called Mr. Schreiber in, and in those cases the figures represent the average of the three opinions?—A. Yes.

Q. That is what I want to get at, why you should put down those figures, the average of your opinion and of Mr. Kelliher's opinion, instead of keeping notes of your own opinion?—A. Well, I put it down, that is what I say, that is all I have down here; I can't help that now.

Q. I see that, but you see at once, Mr. Lumsden, that I should have preferred to get from you to-day notes of your own opinion, taken on the spot, such as it was, where you had information enough to act on?—A. I can give you my own opinion of the greater part of district 'B,' but I can't give it to you on district 'F,' because we went over that district together, but in district 'B' we did not.

Q. You see we are here now in this investigation without figures representing what your opinion was?—A. I concurred in those figures.

Q. That was the average struck—?

Mr. Moss.—That was a matter of compromise.

Q. As my learned friend, Mr. Moss, says that was a matter of compromise, but when your opinion differed from Mr. Kelliher's opinion we have no record of the difference here. There may have been many cases in which your opinion was more nearly in accord with the classification as rendered than his, but we have no record of it at all. I suppose you will admit that is to be regretted?—A. Well, I might have put down what his and what my own opinions were, that is all.

Q. Were these notes put down on the spot in the course of the examination?—A. In all cases they were put down on the spot, they were put down at the end of the cutting as a rule.

Q. At the end of the cutting?—A. Yes, as soon as we walked over a cut we stopped and talked over the matter and put them down.

Q. At the end of a half mile cut; it would be quite a long walk through there; would you make no notes until you got to the end?—A. We were looking at it as we went along, sometimes getting up on the top once in a while and looking over the ground.

By Mr Moss:

Q. Did you take off a lump sum at the end of the cutting, or did you take some off as you went along, chopping off here and there?—A. That will depend upon the nature of the cut; in some cases it wasn't very hard to figure out or guess what the balance was.

Q. You didn't have much time for deliberation as you were going through the cutting of this kind?—A. We were not measuring it, I do not pretend we were.

By the Chairman:

Q. How do you contend, that your opinion sided more with the classification of your own engineers than Mr. Kelliher's did?—A. Very little.

Q. Very little?—A. Very little.

Q. Do you mean to say that in some cases Mr. Kelliher thought your own engineers were right and you thought they were wrong?—A. I won't go as far as that, but in some cases his estimate of the amount of high class material was less than mine was.

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Q. Do I understand that in most of the cases you thought the classification of your engineers was right rather than Mr. Kelliher's, more so than Mr. Kelliher was?—A. I can hardly say that from memory.

Q. You can't?—A. No.

By Mr. Smith:

Q. Did you in all these 19 or 20 cuts take into consideration the fact that the work had been done on the cut where it had been frozen when it was taken out, or not?—A. I do not recollect taking into consideration frost.

Q. If you had taken it into consideration, I suppose you would have had some note of it?—A. I suppose so; I haven't.

Q. Were these notes dictated to your stenographer or secretary, or were they written down at the moment?—A. These are written by myself, all in my own writing.

Q. Did you dictate any notes at all to the secretary who was with you?—A. I think I did, a portion of these, but I can't be positive. I started in to make a copy of them but never completed it.

By Mr. Moss:

Q. Is that the actual book you had on the ground, Mr. Lumsden?—A. Yes.

By Mr. Smith:

Q. You are satisfied that you did not take into consideration the question of frozen material?—A. Well, I do not recollect doing so.

Q. Nor the time when it was taken out?—A. I know nothing about the time when it was taken out.

Q. Well, supposing that that were done under your instructions in the winter months; you ordered them to rush it, as you put it a while ago, what would you say about frozen material there?—A. That would depend upon the kind of cutting.

Q. But under your instructions that would be classified?—A. If the contractor had two or three years to do those shallow cuttings and did not do them, I do not know that because he was rushed at the tail end and had to do these shallow cuttings in the winter that he would be entitled to be paid for the frost.

Q. I think you told us though that you came along and ordered the cuttings to be rushed through?—A. If the contractor hadn't time to do it before; but if he were suddenly called upon to do work which he had lots of time to do and for some reason or other he hadn't done it——

Q. You have admitted that there was a certain proportion of the work that had been ordered to be rushed through, and you admit that with respect to it that it ought to be classified under those circumstances?—A. I admit that in the autumn of 1907, when Mr. Poulin first went there, that I consented to that, if the cuts were opened, if it were necessary to make an extra push on the work, to the opening of the cuts.

Q. Mr. Poulin went there in October, 1907?—A. Yes.

Q. And took charge as district engineer?—A. Yes.

Q. The time for the completion of the contract had expired then, hadn't it?—A. I think so.

Q. Well, according to your reasoning now, there couldn't be any frozen material allowed at all, if the time for the contract had expired, surely you couldn't allow frozen material at all according to your reasoning now?—A. There was no reason you couldn't allow frozen material if you wanted to allow it.

Q. It is not a question of wanting to, it is a question of what is right according to what you said awhile ago?—A. What I said was that in 1907 there was a lot of work to be opened up before the winter set in.

By Mr. Clarke:

Q. Did they work through the winter usually?—A. Yes.

By Mr. Smith:

Q. At all events, Mr. Poulin had instructions to rush the matter through?—A. Yes.

Q. And he had not instructions to authorize the classification of certain frozen material, of some frozen material?—A. Yes, in the opening up of cuts that winter.

Q. That is the winter of 1907-8?—A. Of 1907-8.

Q. Isn't it a fact that most of these cuts that you are discussing were done in that winter?—A. I can't tell you.

Q. Isn't it a fact that it will make a very great difference in all that you have been saying to us if they were?—A. It wouldn't as far as solid rock is concerned, it would as far as loose rock and cemented material are concerned.

Q. And assembled rock?—A. Surely rock is rock.

Q. It would make a very great difference in what you have been telling us to-day about values?—A. In the loose rock and common excavation it would have made some difference.

Q. And still you haven't taken that into account at all?—A. No, not that I recollect; I don't recollect taking frost into account at all.

By Mr. Moss:

Q. You are quite correct in saying that, because there might be assembled rock which might be cemented together by virtue of frost; a collection of boulders, if it were frozen together would come within your definition of assembled rock wouldn't they?—A. Well, if they were——

Q. If it complied in other respects with your definition of assembled rock, cementing by frost would be just as effective as any other kind of cementing, wouldn't it?—A. If it could not be removed without blasting, that would be a good excuse for calling it rock.

By Mr. Clarke:

Q. And would it be the same with regard to loose rock if it could not be removed without blasting I suppose?—A. That is what I was stating there, that if as far as the frozen material was concerned, in opening those cuts where there was clay, and especially wet material, if it were done in order to push the work and to get out the rock, the shallow portions of the cut would be paid for as loose rock when frozen hard.

By Mr. Moss:

Q. My point was that loose rock might by frost be converted into solid rock?—A. I wouldn't consider loose rock to be solid, but it might make a claim of cemented rock out of it if it is at all rock.

Q. If you had boulders over a cubic foot and under a cubic yard clustered thickly together, and frozen together, that might be assembled rock?—A. There might be a reason for taking that for assembled rock.

Committee arose at 6 o'clock.

Committee resumed at 8.30 p.m.

Examination of Mr. Hugh D. Lumsden continued.

By Mr. Smith:

Q. We discussed, Mr. Lumsden, the first day of the arbitration proceedings, now that is the Sunday, May 23?—A. Saturday and Sunday.

Q. I don't wish to weary the committee by going over in detail everything that was done on that arbitration; can you tell us whether the same method was pursued

with regard to all the other work of the Board of Arbitration on District 'F'?—A. Very much the same. Some places we dug, some places we did not, for assembled rock.

Q. I suppose I am right in taking it that you did not dig very often, did you?—A. Some cuts we dug, perhaps in——

Q. How many cuts did you dig in?—A. I can't tell you quite the number.

By the Chairman:

Q. You proceeded very much the same way?—A. Very much the same way.

By Mr. Moss:

Q. Were all the cuts that you dug in set in particulars?—A. I am not sure. You mean in the statement I put in?

Q. Yes.—A. I am not sure whether they are or not. I have a good many of them here.

By Mr. Smith:

Q. Am I right to this extent, that you never took any measurements?—A. No, we never made any measurements more than simply those tape measurements out at those points where we made those diggings.

Q. When you speak of tape measurements, what do you mean there?—A. I mean that we found the station, whatever the station happened to be—say station 1,510—and opposite that station 1,510 there was said to be, possibly ten feet up from the bottom, there was said to be assembled rock, or it might be right in the bottom. Well, we would dig out from the centre line out to the side so many feet, and we dug in three, four or five feet into the bank.

Q. But how often did you do that?—A. As I say, in some cuts we did that possibly in three or four places, that is, one on one side and one on the other.

Q. How many cuts?—A. I cannot tell you without counting them up.

Q. I wish to avoid worrying the committee by going over in detail the various cuts, which would probably take us two or three weeks, as far as I can estimate, and I want if I can now to shorten the proceedings by getting at the principle; now can you tell us whether that was a rule or whether it was not, or how often you did it?—A. We did it in a number of cuts, but I can't tell without counting them up, going through my notes and counting them out, how many we did it in.

Q. I don't wish to leave the matter without a reasonable exploration, but I don't wish to ask the committee to sit here from night to night or from day to day to go over all those cuts in detail; you have helped me to this extent that you have told me now that you have never made any measurements anywhere?—A. We made no actual measurements other than as I say, simply tape measurements at those points.

Q. And as far as you varied the classification of the resident engineers, that was the result of a mere estimate or guess on examination of conditions you found?—A. Yes, it was simply my opinion of it.

Q. Now, could you shorten the proceedings by giving the committee some idea as to when and where and how often you made any diggings at all?—A. Well, I can go over my notes.

Q. How long would it take you to do that?—A. I think by referring to these I might be able to pick them out.

The CHAIRMAN.—You might serve your purpose if the witness admits that he proceeded in the very same way with all the other cuts as he did through this 7½ miles.

Mr. SMITH.—Yes, Mr. Chairman, but I am always exposed to this unpleasant difficulty, that if there are any general statements it may be said that I did not examine the thing fairly and fully. That is the trouble. I want to shorten it if it is possible to do so.

By Mr. Smith:

Q. Was your district engineer, Mr. Poulin, with you all the time during this arbitration trip?—A. He was along. He was not present all the time. He was with us all the time, but he was not actually on the ground at the time we were. He was on the trip all the time.

Q. Did you make any diggings after the second day?—A. Oh, yes, I think so.

By Mr. Moss:

Q. After the third day?—A. I will just glance over and I can tell you on what day. (After examining his note-book.) I find we dug at station 1,441, for instance, in a couple of places. It is not one of those mentioned there.

By Mr. Smith:

Q. That is a long way off, isn't it? Let me know in how many cases you made any diggings at all on this division No. 5; that takes you up to 2,456?—A. Including the ones already mentioned?

Q. Oh, yes, you need not go over those again?—A. Station 1751 is another one. That is two.

Q. How much did you dig there?—A. Dug down on top solid rock and found nothing but clay; no assembled rock.

Q. How much did you dig?—A. Two feet, three feet; I haven't got the depth to which we dug in that.

Q. Nor the width?—A. Nor the width.

Q. Neither the depth nor the width of what you dug?—A. No.

Q. Was that one of those in dispute?—A. 1751, 1762.

Q. That is two diggings you got since you left your first day's work?—A. Yes.

Q. You gave us a note about that, did you?—A. The note I gave is 1755; that is four stations.

Q. Have you a note of digging?—A. The only note I have got was: 'Dug down on top of solid rock, but found clay, no assembled rock.'

By Mr. Smith:

Q. What do you mean by 'Dug down on top of solid rock'?—A. There was rock in the bottom of the cut.

Q. There was rock there?—A. There was no doubt there was rock there.

Q. You dug down two feet and found solid rock?—A. Yes, on the top of the solid rock on the side of the cutting; I presume that is it.

Q. When did you dig again? Division No. 5 takes you the 2456-2468?—A. (Examining note-book.) Station 2371 plus 90, 2376 we dug again.

Q. That is three times that you made a cutting; have you any notes of what the cutting was; how wide the top and how long?—A. We dug to a distance out of 15½ feetand 3½ feet deep on the south side, and 15½ feet on the north side and 3·3 feet deep.

Q. That is 2371?—A. At 2371 plus 90; that is station 2375 in reality.

Q. What was the depth of the cutting there?—A. I can't tell you the total depth of the cutting.

By Mr. Moss:

Q. That means your pit was 15 feet from the centre?—A. Our pit was out into the slope for a distance of 15 feet from the centre, 15½ feet.

By Mr. Smith:

Q. I suppose the pit was only about 2 feet deep?—A. 3·2 feet.

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By Mr. Moss:

Q. That would not mean that the pit was 15 feet long?—A. No, no. The pit would be about 4·2 or 5 feet long, dug in from the edge of the side of the cutting.

By Mr. Clarke:

Q. Was that out into the slope?—A. Yes, station 2,403, that is the cut of 2,403 to 2,409, we dug there at station 2,407.

Q. How deep and how long?—A. I have not got the depth and length of that one; no reference to depth, but no assembled rock, there is no doubt about that.

By Mr. Moss:

Q. These do not seem to be in your protest?—A. Some of them are not in mine.

Mr. SMITH.—That is, in the arbitration?

Mr. MOSS.—No, but they are not in Mr. Lumsden's protest.

Mr. LUMSDEN.—No, that takes me to station 2,409.

By Mr. Clarke:

Q. Where do they begin to number the stations? Do they begin at the east end of the district?—A. No, this numbering we are on at present commenced about three miles east of where the McArthur contract actually began, and they were carried on for some distance farther, and then there was a break in the chain.

Q. They don't correspond with the districts?—A. They don't correspond with the actual mileage; that is as far as I noticed any in that division.

By Mr. Smith:

Q. How many cuts is that altogether? Is that four or five?—A. Four or five, I am not sure which.

Q. Would you tell us how many cuts there are in that division?—A. I can't tell you without counting them up.

Q. I am sorry I will have to trouble you?

By Mr. Moss:

Q. I suppose the profile will show?—A. The profile shows them all. You can count them on the profile a great deal quicker than I can count them.

By Mr. Smith:

Q. I have not got the profile before me?—A. Where do you want me to start? From the commencement of the work?

Q. No, from the 7½ miles?—A. What station will I start from?

Mr. CHRYSLER.—I think Mr. Poulin can tell very quickly from his profile.

By Mr. Smith:

Q. Mr. Lumsden, Mr. Poulin will now show you the profile, and if you can count the cuts on that more quickly I wish you would do so?—A. (After going over profile as unrolled by Mr. Poulin) 58. There are a lot of those cuts with only 8 or 10 yards in them. Shall I take those in?

Q. Take in everything that the profile shows? (Mr. Lumsden continues counting up to 100.)

Q. What is this on?—A. I understand I started at Division 5. (Continues counting.) There appear to be 126.

Q. You recognize the profile then, you know it, I suppose?—A. Well, I don't know it by heart, but I presume the profile is all right.

Q. You have no question about the profile?—A. I don't say that.

Q. And you find 126 cuts subsequent to the 20 cuts that you have already spoken about?—A. Yes.

Q. And in the 126 cuts you only made diggings in four or five?—A. Five or six —four or five, yes.

Q. Then with regard to the other 120 or 121 you made no diggings?—A. Made no diggings.

Q. And there were no measurements made in any one of those cuts?—A. No.

Q. So that if I were to pray this committee to hear me while I examined you on each of those cuts, your answer would be the same with respect to them as the answers you have given already?—A. I don't think you would find I have anything like that number of cuts, because some of them were so small that I took no notice of them.

Q. But those are the cuts shown on the profile?—A. Yes.

Q. And you must have examined everything there was on the profile?—A. Yes.

Q. And if we were to take up a week's time now to go through all those different cuts, and if I were to examine you upon each one of them, your answer would be the same—that you took no measurements and made no diggings with the exception of four or five or six cuts out of that number?—A. As far as my notes are on them.

Q. And I suppose I may assume that as far as your notes are concerned, they would represent the average of your opinion and Mr. Kelliher's, together with the opinion, in certain cases, of Mr. Schreiber thrown in, and average of the three taken? —A. Yes.

Q. And that, as you put it yourself, would be a guess?—A. That is my opinion.

Q. It is a guess?—A. Well, it is not measurements, there is no question about that.

Q. Let us get at it—that it is a guess, pure and simple?—A. Well, I mean to say that is what I thought on the ground, what I imagined would probably be in the work, but I made no measurements, and I couldn't say that that was the number of yards in it exactly.

Q. If I remember correctly 'guess' was your own word?—A. I believe I used the word 'guess'—possibly inadvisedly.

Q. If there is any reason why it was inadvisedly used I wish you would tell us now?—A. No, except that it is——

Q. It is a guess, isn't it?—A. It is to a certain extent a guess.

Q. Not to a certain extent, but it is altogether a guess?—A. Well, it is not made from measurements, it is made from——

Q. Now, I am sorry but I must trouble you, Mr. Lumsden, to give me the same information with regard to division 6, division 7 and division 8 of 'F'; tell me how many diggings you made on division No. 6?—A. Tell me where the division extends to.

Q. From 2474 up to 4686; 4686 to 4694 is one cut?—A. I have got a digging at 2479 plus 90. I have got no assembled rock there. I dug at 3547 plus 50.

Q. That was evidently not a station that was in issue? That was not one that was being arbitrated?—A. No, the cut was from 3540·75 to 3556·80.

Q. 3540 to 3542 is the one that is complained of here (referring to printed list)? —A. You know that possibly may be on the other numbering on ahead.

Q. There is nothing up to 3446 that is the arbitrated portion; How do you account for that?—A. Unless it may be a duplicated number. That is on division 6. Station 3752. That is between—a cut between station 3446 plus 30 to 3759 plus 10.

Q. Could you just tell us how long these cuts were and how deep?—A. Not how deep. I can tell you how long they were by these stations.

Q. Have you any notes of what the cut was?—A. I know what was returned in it.

Q. What does it say?—A. I have got 4900—

Q. No in the cut you made the digging in?—A. The note I have is 'dug down about 10 feet from the top, north side. Nothing but clay.

Q. What do you mean by digging down about 10 feet from the surface?—A. About 10 feet from the surface down on the slope, about 10 feet.

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Q. How deep did you dig?—A. I can't tell you how deep. We dug down 10 feet from the surface.

That is down the slope?—A. Yes.

Q. That is lengthwise?—A. That is vertically.

By Mr. Clarke:

Q. A foot and a half to a foot?—A. Probably we dug about three or four feet both ways.

By Mr. Smith:

Q. Probably but you don't know?—A. No, I don't know I can't remember now.

Q. That is three we have got in this division. Now, go along please.—A. Dug at 3958 plus 25.

Q. What did you find there?—A. I have not got the dimensions we dug.

Q. You have no dimensions of what you dug at all?—A. Not there.

Mr. CLARKE.—That is station 3958 plus 25.

Mr. SMITH.—3957.

The WITNESS.—No, 3958 plus 25.

Mr. SMITH.—We have it here 3957 in the arbitrated portion.

By Mr. Moss:

Q. What do you say about your digging?—A. (Reads) 'Dug at 3958 plus 25, south. Found no assembled rock.'

Q. You dug down and found no assembled rock.

By Mr. Smith:

Q. Have you any sizes of your digging at all?—A. The dimensions of the digging I have not got. 'Dug at station 4099 plus 75.'

Q. That does not seem to be mentioned as one that is being arbitrated. There must be a typographical error there. You see on the second column of page 9 (S. paper 42a), it says '4075 to station 4070.' That must be a mistake, mustn't it?—A. Yes, I see that 4070.

Q. That must be a typographical error?—A. I expect so.

Q. Perhaps that is the one you are referring to?—A. This is 4096. The cutting starts at 4096 plus 65 to 4100 plus 75.

Q. What is the size of the digging?—A. I have not got any dimensions at all.

Q. Your note does not say whether it is 2, or 6 or 10 feet?—A. I find (reads):—'A good many stones and gravel. No assembled rock.'

Q. A good many stones?—A. A good many stones and gravel. No assembled rock.

Q. Surely, Mr. Lumsden, if you found a good many stones you may have had assembled rock when the classification was made?—A. Not if a large proportion of it was gravel and sand.

Q. If you found a good many stones?—A. You will find a good many stones.

Q. You had sand and clay, and it was cemented together. Surely that would be assembled rock, wouldn't it?—A. Not unless a large proportion of it was stones.

Q. Not unless a large proportion of it was stones. Who is going to tell what is a large proportion when you come to look at it two years after?—A. This stuff we moved had not been moved before.

Q. What?—A. The material we moved had not been moved before.

Q. The slopes had been dressed?—A. This is inside. This is inside the slopes that had been dressed off.

Q. But you didn't dig in far enough.—A. We dug in as a rule three or four feet.

Q. That would not get inside the dressing of the slopes?—A. It gets inside of what has been dressed.

Q. How would it? It depends on your slope. You may get in or you may not?—

A. These slopes were most of them taken off, were supposed to be taken off, at 1½ to 1.

Q. You have already explained fully to the committee that you could not take off 1½ to 1 in assembled rock, it would be most dangerous to do it?—A. What are you talking about? You mean ¼ to 1. I am saying 1½ to 1.

Q. These slopes were 1½ to 1?—A. Some might have been a little steeper. Some might have been 1 to 1 or ¼ to 1.

Q. Have you any record of what they actually were, the slopes?—A. I could not tell you, not the individual cuts, what they were. I don't know what they were taken out as—the slopes most of them.

Q. Do you tell this committee you dug in two feet and got into material that had never been disturbed?—A. As a rule that slope tended like that (illustrating by a gesture.) We will say 1½ to 1. By going down 4 feet there——

Q. You have not said you dug 4 feet?—A. I haven't said it. We dug down 3 or 4 feet and probably in places it would be 5 feet or more. That is it would be just a triangular piece taken out like that (illustrating by a gesture).

Q. You have been talking about two feet. A while ago you said as a matter of fact 2 feet probably?—A. We dug all depths. I can't tell you the individual details except where I have got the figures here. If you get out on the ground and dig there you will see more of it in 5 minutes than I can tell you in a day.

Q. But I want to see if I cannot get at some idea of what you actually did do, whether it was 2 feet or 4 feet?—A. I cannot tell you at this point whether we dug 2 or 4 feet. We dug down into the original ground anyway.

Q. How did you know what it was like when you were not there till nearly two years afterwards?—A. A great deal of this work I am speaking of now was being carried on at the time I was there, it was not finished.

Q. If you would only indicate that as we go along we would save a good deal of time?—A. But you have jumped me over the whole division. A great deal of work was not finished when we got there.

Q. A great deal of this work was done two years before you got there?—A. Some of it was but a great deal of this work was being done when we got there.

Q. Does division 6 differ materially from division 5?—A. There was a great deal more work going on in division 6 than on division 5. They were laying tracks on division 5 but not on division 6. Tracks were laid on some parts of division 5 but not on this portion of division 6.

Q. What does your note say?—A. I told you I have got no note for that.

Q. All right. Give us the next digging you have got. Was Mr. Poulin there when you made that digging, the district engineer?—A. I can't tell you positively. He was with us but whether he was there actually at the time or not I cannot tell.

Q. Very well give us the next digging?—A. (Reads) 'Dug down side at 4,233 plus 50.'

Q. We have got 4,235 to 4,240 as the part objected to and in arbitration?—A. I have got a note '4,228 plus 80 to 4,240 plus 57.' At station 4,233 plus 50 I have got 'Dug down north side. No assembled.'

Q. Have you got any note of how much you dug? Have you got a note of how wide your digging was?—A. No.

Q. Or how deep?—A. No.

Q. Or how long?—A. No.

Q. Give us the next digging?—A. (Reads) 'Dug at station 4,429 plus 80.'

Q. That is evidently one of those there is no arbitration about?—A. No, it appears not.

Q. Well, what did you find there?—A. All I have got is (reads): 'Dug south side. No assembled.'

Q. No assembled?—A. No.

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Q. Is there no statement there as to the digging, the length, breadth or anything else of your digging?—A. No.

By Mr. Moss:

Q. Did you make any reduction there, Mr. Lumsden? What did you do at that cutting?—A. I have got (reads): 'Allowed 19,965 yards of rock, 130 yards loose rock, and 5,991 yards of train fill.'

Q. That is what you allowed?—A. Yes.

Q. What did the returns show?—A. 16,965 feet of rock.

By Mr. Smith:

Q. You allowed 3,000 yards more than the returns showed?—A. The overbreak in this case was not deducted from that. The overbreak was 6,994 yards.

By Mr. Moss:

Q. Show us what you did with that?—A. The return that I have got is 16,965 yards of rock. Of overbreak there was 6,994 yards, and 130 yards of assembled rock. Out of that I have made it: rock, 19——

Q. Those are your figures, not the engineer's return?—A. I have made it 19,965 yards of solid rock, 130 yards of loose rock, and took 3,994 yards of the overbreak and allowed it as 1½ to 1, as train fill.

Q. Was that confirmed by the other arbitrators?—A. I can't remember if it was.

By Mr. Smith:

Q. It must have been confirmed by Mr. Kelliher?—A. I presume so.

Q. It was the average of your opinions?—A. I presume so. I have no special note of it.

By Mr. Chrysler:

Q. That is of the overbreak you have made solid rock 3,000?—A. We allowed 3,000 feet of it as solid rock.

Q. The division engineer would have allowed 6.994?—A. Yes.

Q. Or had returned that?—A. Had returned that.

By Mr. Smith:

As overbreak?—A. As overbreak.

By Mr. Chrysler:

Q. The remaining 3,994 of the overbreak you allowed as——A. As 5,991 yards of train fill.

Q. Well, he had returned that. The resident engineer had returned 5,991 yards of train fill, hadn't he?—A. No, he had returned no train fill.

By Mr. Smith:

Q. Mr. Lumsden, what is the cut you made there?—A. Well, it increases the total yardage by 1,997 yards, but it reduces——.

Q. You increase, as a matter of fact, the measurement of your cross-section, would you not?—A. You would increase the product of the measurement of the cross-section if you allowed 1½.

Q. You increased the product of the measurement of the cross-section by reason of the overbreak?—A. For a portion of the overbreak.

By Mr. Moss:

Q. Dollars and cents show a decrease?—A. A decrease.

Q. But not very material in that case?—A. There would be some because there is a difference between solid rock——

By Mr. Smith:

Q. A difference between solid rock and train fill? But you allowed 1½ to 1 as train fill?—A. Yes.

Q. Can you give us any other digging in that division?—A. Station 4,596 plus 14 to 4,597 plus 80.

Q. That was evidently another one that was not objected to at all or not in arbitration at all?—A. No. I have got a note regarding that (reads): 'Dug here. No assembled rock. No depth, no width.'

By Mr. Moss:

Q. Did you prune that down in the same way?—A. There was only a thousand, a little over a thousand, yards in that cut altogether.

Q. Did you cut it down?—A. We cut it down to 157 yards of assembled rock and we put it in as loose rock. That is all that was done.

By Mr. Smith:

Q. That is all in that section?—A. That is all in that one.

Q. That brings you to very nearly the end of division No. 6?—A. That is up to station 4,694.

Q. Very well; now we have eight diggings you made in this division No. 6. Now, I will ask you to look at the profile and tell us how many cuttings there were in division No. 6?—A. (After examining profile) 152.

Q. So that, Mr. Lumsden, you made diggings in 8 cuts out of 152?—A. Yes.

Q. But to be absolutely fair you tell us that some of the cuttings were there?—A. Some of the cuttings were there and a great many deep cuttings referred to were being worked at the time we were there. They were not finished.

Q. I understand from what you told us before that no measurements were made in division No. 6?—A. I made no measurements.

Q. None whatever? What can you tell us about division No. 7 from your notes as to the number of cuttings in which you made any diggings?—A. Station 1,585 plus 50, that is backed up chainage again.

Q. What do you mean by backed up chainage?—A. It starts over again; it goes backwards now.

Q. 1,580 to 1,593 is objected to in division No. 7?—A. Yes, I have got it from 1,592 to 1,579 backwards; that is the same cutting.

Q. That is the same cutting and that is your first digging?—A. Another digging at 1,584 on the same cutting.

Q. That is the same one?—A. The same cutting, only two diggings in the same cutting. 'In digging three feet deep' is the note I have on the first one.

Q. What is the next one?—A. He found no assembled rock on the second one.

Q. No dimensions?—A. No dimensions.

Q. In either case?—A. I have three feet deep in the first one, but no dimensions in the second one.

By Mr. Chrysler:

Q. How do they take the measurement in the return?

By Mr. Moss:

Q. What did you do with the returns, Mr. Lumsden?—A. Where?

Q. Where you made those diggings in 1,583?—A. The returns given to me are: rock, 14,258; overbreak, 4,390; loose rock, 7,562; common excavation, 363.

Q. That is a big cutting, is it?—A. Over 20,000 yards in it.

Q. What did you do with it?—A. I have got 13,258 yards solid rock, 8,562 yards loose rock and 363 yards of common excavation thrown out; thrown some of the overbreak out because it was wasted.

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By Mr. Smith:

Q. That is all you have done there?—A. Yes.

Q. There does not seem to be any question of assembled rock in there?—A. No, there was no assembled rock in there.

By Mr. Moss:

Q. You just tossed out some of the overbreak?—A. Overbreak.

By Mr. Smith:

Q. What amount did you toss out, to use the expression?—A. 3,890 yards of overbreak there was in it, but I put in—I have got mixed up on those figures.

By Mr. Moss:

Q. You tossed out the whole of the overbreak?—A. Yes.

By Mr. Smith:

Q. Let me ask you a question, Mr. Lumsden. The only difference that you have made then is that you have taken 1,000 off the 14.258 of solid rock and you have added to the loose rock?—A. Yes.

Q. You have left the common excavation as it was, 363?—A. Yes.

Q. And you have wiped out altogether the 3,890 yards of overbreak?—A. Yes.

Q. On what principle?—A. Because it was wasted.

Q. The total overbreak you have wiped out?—A. Yes, I have got the total overbreak—I have got 3,890 cut out for waste.

Q. That is the total overbreak?—A. Yes, that is all the overbreak.

Q. How could you possibly form any opinion whatever?—A. You can form an opinion.

Q. Well, how can you do so going there long after the thing was done to determine whether there was an overcharge of dynamite which loosened so much rock? How could you possibly form an opinion at all?—A. You can form an opinion. I cannot say how accurate it would be, but you can form an opinion in a cut twenty years after, where it was heavily shot up.

Q. You can form an opinion on anything, but when an engineer forms an opinion it is not like a lawyer? A lawyer's opinion may be very inaccurate, but an engineer's opinion is supposed to be accurate?—A. Yes.

Q. Can you say that such an opinion will be accurate?—A. I can say that you can form a good opinion as to whether it was heavily charged or not a good many years after.

Q. How would you figure?—A. It depends on what kind of rock was in it.

By Mr. Clarke:

Q. Where was the material——A. I cannot state in this particular cut whether it was drawn over the sides or hauled out, wasted on the sides or wasted on the top.

By Mr. Moss:

Q. In the returns that the engineers make, everything is shown as overbreaks, except when you cut it right down to the theoretical prism?—A. Yes.

Q. And you deducted everything?—A. In that case we deducted the whole of it.

Q. Reduced the contractors to the theoretical prism?—A. Yes.

By Mr. Smith:

Q. A thousand yards, you have taken from the solid rock and put on the loose rock?—A. That is the thousand yards I was looking for.

Q. That is the thousand yards you have taken off solid rock and put on loose rock. What I wish to ask is whether you think as an engineer that it is possible, whether it would be just, fair and honest to hold the contractors down to the theoreti-

cal cross-section when they are dealing with high explosives? How could you possibly say five, ten or fifteen feet off the theoretical cross-section would be reasonable? How can you possibly see it looking at it afterwards?—A. By the way the rock is laid.

Q. But you don't see the rock when the blast is put in there?—A. You don't see the rock when the blast is put in there, but you see in what shape the rock was laying, whether it was in horizontal beds, vertical beds or inclined beds.

Q. Would you undertake to say theoretically how much a blast is going to move?—A. No, you cannot say exactly what a blast is going to move.

Q. If you cannot thereotically, can you figure approximately?—A. You can imagine what you are going to do.

Q. It is only imagination after all?—A. You cannot tell exactly what you will move.

By Mr. Moss:

Q. Is it fair to hold the contractor down to the theoretical prism in a case like that?—A. All I can say in cases like this, we never pay for slopes except in an unmistakeable slide.

Q. But your contract provided for paying for that?—A. No, we pay for nothing outside the slope, except it was caused by distinct slides.

By Mr. Smith:

Q. You have given us those first two diggings——

By Mr. Chrysler:

Q. Is it not this: It is not a question of what is fair, I suppose it is a question of what the contract calls for. This contract calls for measurement of rock within the slope lines, except where the blasting of the rock behind the slope lines is not due to the excessive use of explosives by the contractor. Is not that the contract we are dealing with?—A. That is not the wording of it——

Q. I might not have the exact wording. My impression about this—you can correct me and we will get the language—if the contractor is entitled in rock work to the rock that is behind the slope lines, if it has come down without negligence on his part in the operation of blasting.

Mr. SMITH.—Without the excessive use of explosives.

By Mr. Chrysler:

Q. 'Unavoidable,' I think it is. That will depend very much upon the cleavage of the rock and the strata?—A. Yes.

Mr. Moss. (Reading):

> Material in slips, slides and subsidences extending beyond the slopes in cuttings will not be paid for unless, in the opinion of the engineer, such occurrences were beyond the control of the contractor and not preventable by due care and diligence.

By Mr. Chrysler:

Q. It qualifies the other clause which says, 'You shall not allow anything behind the slope line.' That is right. I mean my interpretation of it is correct?—A. Yes.

By Mr. Smith:

Q. Mr. Lumsden, you issued a circular bearing date February 11, 1909, in relation to overbreak?—A. Yes. I don't remember what it was.

Q. We will file it as an exhibit.

APPENDIX No. 3

EXHIBIT No. 63.

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

OFFICE OF THE CHIEF ENGINEER.

TO ALL ENGINEERS—

Having been asked for an explanation of the term 'overbreak in rock cuttings,' and my views as to the same, I may say that this term is one that, in as far as my experience goes, has only been made use of in late years, and does not appear in any portion of our contracts or specifications.

My understanding of it is that it means rock in cuttings outside of the regular ¼ to 1 slopes which contractors may have to remove for various causes.

Rock cuttings are laid out by the resident engineer and slope stakes placed, and contractors are entitled to all rock taken out by them to the required slopes between the stakes placed by the engineer, and deposited where directed by the engineer. The contractor is also entitled to payment for the removal of slips or slides which may take place from outside the slope stakes, provided, in the opinion of the engineer on the ground, they are beyond the control of the contractor. See clause 37 of Specifications. When rock inside of slope stakes has been wasted through use of large blasts, and the material is required for embankments, it must be treated under clause 13 of the Specifications.

I would call your attention to the following clauses: In the contract, clause 6 incorporates as part of the contract the drawings attached to the contract which show typical rock cuttings. In the Specifications, clause 4 gives the dimensions and clause 5 the slopes to which cuttings are to be laid out. Clause 13 prohibits the use of large blasts, except under certain conditions. Clause 18 provides that slopes of all excavations must be cut true, &c. Clause 19 provides against wasting of material, except as stated. Clauses 37 and 38 provide for slips or slides taking place outside of slopes. Clause 120 provides for removal of shattered rock in tunnels at contractors' expense.

At points where the use of rock borrow has been approved of by me, and the rock outside of slopes in adjacent cuttings, for which otherwise the contractors would not be entitled to payment, has been utilized in embankments, it should be paid for at the rock borrow prices, *but no overhaul* beyond such rock borrow necessitated should be allowed.

The division and resident engineers on the ground should be the best judges of what is or is not so-called overbreak, for which the contractor would be entitled to payment. As a rule, it would be found that one side of the cutting is liable to slide in or break back, owing to the inclination of the rock stratification, while the other side is not. Where caused by the use of enormous blasts, rock has to be removed from outside of regular slopes, it should not be allowed, except in cases as before mentioned, or where it was made use of in embankments, which would otherwise be made up of common excavation or train-hauled material, in which case the rock should be paid for at its equivalent value in such embankment.

HUGH D. LUMSDEN,
Chief Engineer.

OTTAWA, February 11, 1909.

Q. In that circular I see that you say:

The divisional and resident engineers on the ground should be the best judges of what is, or is not, so-called overbreak for which the contractor would be entitled to payment. As a rule, it will be found that one side of a cutting is liable to slide in or break back, owing to the inclination of the rock stratification, while the other side is not. Where caused by the use of enormous blasts, rock has to be removed from outside of regular slopes, it should not be allowed except in cases as before mentioned, or where it was made use of in embankments, which would otherwise have been made up of common excavation or train hauled ma-

terial, in which case the rock should be paid for at its equivalent value in such embankment.

Will you kindly look at the circular that you issued and say if that gives your views to overbreaks?—A. That is the circular.

Q. That is the circular which you issued, Mr. Lumsden?—A. Yes.

Q. And that, I suppose, still contains your views as to the meaning of overbreak?—A. Yes.

Q. 'Where it has been by the use of enormous blasts?'—A. Yes, but you read the first portion of it, I think the first long clause in it.

Q. (Reading):

> Rock cuttings are laid out by the resident engineer and slope stakes placed and contractors are entitled to all rock taken out by them to the required slopes between the stakes placed by the engineer, and deposited where directed by the engineer. The contractor is also entitled to payment for the removal of slips or slides which may take place from outside the slope stakes, provided, in the opinion of the engineer on the ground, they are beyond the control of the contractor. See clause 37 of the specification.

That is to allow one and one half for common excavations?—A. That is inside the slope, where part of the cutting has been blown off.

By Mr. Moss:

Q. That is where you blasted it to smithereens?—A. Yes.

By Mr. Smith:

Q. In one case you spoke of being wasted through the use of large blasts, and further down in the last clause you speak of the use of enormous blasts. You mean the same thing, don't you?—A. What does the last one refer to in enormous blasts?

Q. That last one says:

> 'It should not be allowed except in cases as before mentioned or where it was made use of in embankments.'

A. Yes.

Q. So that it comes down to this, that it is a question whether in the opinion of the resident engineer rocks taken from outside the slopes, removed outside the slopes, the theoretical slopes, or shall we call it the prism, or the cross-section, whatever you like, if it has been caused by the injudicious or imprudent use of enormous blasts, the engineer might allow it except where it has been used in embankments even to the extent of one and a half to one?—A. The extent would mean what material could be obtained. If in place of excessive rock and overbreak, it was necessary to borrow rock to make up that embankment, that would be paid for as solid rock: On the other hand if other material was blasted, that would only be paid for whatever it was.

By Mr. Chrysler:

Q. In the particular case we started with, Mr. Lumsden, the propriety of removing 3,890 yards of overbreak depends not merely on the question of its being beyond the slopes, of its being removed by, say, negligent blasting, but also upon the question of the use that was made of the rock outside the slope?—A. My note says it was wasted.

By Mr. Moss:

Q. But then there would have to be an element of excessive blasting first before you could penalize the contractor?—A. I cannot tell in this particular instance.

Q. That is the result of your interpretation that there must have been an excessive use of blasting before you would penalize the contractor, even if he got outside

the theoretical slope?—A. Sometimes without excessive blasting, they go outside the theoretical slope.

Q. Before you penalize there must be excessive blasting?—A. Yes.

Q. How can you judge whether there is excessive blasting or not?—A. How you can judge on the ground is if you see a mass or 20 or 30 yards of rock blown 40 or 50 feet into the woods you can tell.

Q. Did you see it in this cut?—A. No, I cannot say whether it was there or not.

Q. That is what we are speaking about?—A. You are speaking generally. Immediately before that I thought you meant generally.

Q. I mean in this cut. You cut the engineers down to the exact prism here, and apparently you said they were at fault for not holding the contractor down to the exact prism. I want to know what your exact reason for that was?—A. I cannot say how it was wasted in this case.

By Mr. Smith:

Q. Look at the letter dated February 25, 1909, from Mr. Woods, assistant engineer of the Grand Trunk Pacific, to yourself and say whether that does not approve of your interpretation of the overbreak?—A. Yes, that approves of it.

Q. We will file that as Exhibit No. 64.

EXHIBIT No. 64.

MONTREAL, QUE., February 25, 1909..

Mr. HUGH LUMSDEN,
Chief Engineer N. T. Railway,
Ottawa.

DEAR SIR,—I have yours of February 24, fyle 8,530, in reply to my letter of the 23rd, *re* overbreak on district 'F,' and note inclosed copy of your interpretation of the meaning of overbreak which was furnished all engineers on the work.

The explanation in your circular is satisfactory, and I am sure there will be no objections from this company if these instructions are carried out.

In this connection, I note, also, on Residency 31 an item has been allowed of 3,053 cubic yards of overbreak in rock tunnel, and another item of a similar nature on one of the other residencies. If this overbreak is within the portals of the tunnel, I see nothing in our specification for allowing same. Kindly give this matter your attention also, and oblige,

Yours truly,

H. A. WOODS,
Asst. Chief Engineer,
Grand Trunk Railway.

Q. Now, that is station 1580? Will you look at it and see if you have any more diggings in division No. 7? You have only given us those two diggings on division 7?—A. Another digging in 1396.

Q. That is evidently not the one in controversy?—A. Are you on No. 7 now?

Q. Division No. 7, yes. You have given us 1,580 two diggings?—A. Yes; then 1,396.

Q. That is the one that is evidently not in controversy. It was not in arbitration at all?—A. No.

Q. What have you got there?—A. Both sides all sand to the north; one boulder and a few small stones and gravel to the south; no assembled rock.

Q. What are the dimensions of your digging?—A. I have no dimensions.

Q. Whatever your digging was you found stone?—A. All sand on the north side and on the south side we found one boulder and some stones.

Q. It does not say 'small' it just says 'stones?'—A. 'Boulder, stones and gravel on one side.'

Q. And you have no idea whether it was two feet, one foot, seven feet?—A. No, I cannot give you the dimensions.

Q. Give us the next one. Before you pass from that one, tell how you would have changed the specifications, what are your returns and how much?—A. What station was that?

Q. It is not one of those in controversy at all?—A. The returns, as I got them, and as I have given them: rock, 5,226, out of which 1,965 was assembled rock.

Q. 1,976?—A. No. 1,965, and out of that, overbreak 3,324.

Q. That is something separate?—A. That overbreak is outside of the——

Q. Yes?—A. How I have treated that is rock, 49,223.

Q. Yes?—A. That is allowing one-half the overbreak.

Q. Allowing one-half the overbreak?—A. Yes, that is ledge rock and one-half the overbreak.

By Mr. Chrysler:

Q. Disallowing the assembled rock?—A. No, putting the assembled rock in along with 484 yards of loose rock as loose rock.

Q. Give us the loose rock, then?—A. 484 yards loose rock.

By Mr. Smith:

Q. Like all the rest that was done on a pure guess?—A. That is my opinion of what it was.

Q. Now, give us any other cuttings you have on that division?—A. Dug at 1289.

Q. A digging at 1289?—A. 'Dug at station 1289,' that is the note I see that I have here, and the note is, 'Dug at station 1289, no assembled rock.'

Q. Have you any dimensions of the diggings or anything else?—A. No.

Q. And that is one which is not in the arbitration at all?—A. No.

By Mr. Chrysler:

Q. You did something with the return there, or did you not?—A. I did nothing with this one; I didn't get the ledge rock separated from the assembled rock.

By Mr. Smith:

Q. Did you have the figures of that return in your book?—A. I have the total rock, but no ledge rock separated from the assembled rock.

Q. You have no change in the rock there?—A. I haven't figured out anyway.

Q. Have you any more diggings yet?—A. I haven't any here, I have to go into the other book—station 520, that is not in this.

Q. That is evidently not one that is in this list?—A. Oh, yes, it is, there is a 520 here.

By Mr. Moss:

Q. That is in the other division though?—A. 520 to 514—no, it is not one of these, I don't think so.

By Mr. Smith:

Q. It is evidently one that was not in dispute at all; the Grand Trunk Pacific people never objected to it. It is not one that was in arbitration at all?—A. I do not think it is.

Q. Have you any digging there?—A. Yes.

Q. How big was the digging?—A. There is no note of it.

Mr. Moss.—What did you do with the return?

By Mr. Smith:

Q. Did you vary the return there?—A. I have got that return, including a borrow pit at the west, and I can't give you the figures for the cut.

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By Mr. Chrysler:

Q. Nor whether you made any change?—A. I can't tell you what change I made; I see a note at the bottom, 'This includes borrow pit to the west,' and I can't give you the figures for the cutting. I have another digging here at 294.

By Mr. Smith:

Q. Well, 294 was evidently another place that was not in dispute at all; there was no arbitration about it at all?—A. That appears to be so.

Q. Yes, that brings you very near to the end of division No. 7, doesn't it?—A. I believe I have got out of that division now.

Q. That is the end of division No. 7 then, isn't it, Mr. Lumsden?—A. That is the end of division No. 7.

Q. So then, to sum up, we have between stations 1580 and 1593 two diggings that were made at one of the stations with regard to which there was a claim made, and which was referred to the arbitration, then we have five other diggings at stations none of which were in arbitration at all, that is correct, isn't it?—A. I presume so.

Q. Now, will you tell us before the committee adjourns how many cuttings there were on division 7?—A. (After examining profile) 226.

Q. So we have 226 cuttings in division No. 7, and in that number you only made a digging in one cutting that was in controversy, or in arbitration, and in five others that were not in the arbitration at all?—A. Yes.

Mr. SMITH.—Now, if the committee will bear with us for a few minutes longer, it will only be a very short time, we will be able to finish up division No. 8 in 'F.'

By Mr. Smith:

Q. In division No. 8 will you tell us, Mr. Lumsden, how many diggings you made?—A. I have a digging here at station 8817 plus 45—I can't find it, I can't see where that can be.

Q. That may be, there is an 8224 to 8227 in division No. 8?—A. 8224?

Q. That is probably not in division No. 8 at all. Division No. 8 seems to end at 8286.

By Mr. Chrysler:

Q. Perhaps Mr. Lumsden had no digging at all in division No. 8?—A. Oh, yes, this is away beyond the division; I don't apparently have any in that at all.

By Mr. Smith:

Q. You have no diggings at all in division No. 8?—A. Not on this profile.

Q. Will you go over the profile of division No. 8 and see how many cuttings there are?—A. (After examining profile) Mr. Smith, do you wish me to go over the whole of this division? I have got now to the end of what the figures given in the complaints are.

Q. That is all that is necessary, because there is no use going into what is not in controversy at all. I want to shorten it as much as possible.—A. There are 52 cuttings up to that point.

By Mr. Moss:

Q. Did you go over the whole of the division?—A. No.

Q. Did you go as far as Rennie?—A. I don't know whether I went over it to Rennie—no, it is not to Rennie.

Q. Does that comprise the whole of Division No. 8, does it take all of Division No. 8?—A. Oh no, this is only to the end of the complaints.

By Mr. Smith:

Q. As I remember it, I think you only objected up to Rennie didn't you? You

said it was the portion up to Rennie you had lost confidence in?—A. Yes, but this is not up to Rennie.

Q. It is up to the end of that portion that was in arbitration, that the Grand Trunk Pacific objected to?—A. It is up to the end of these complaints here.

Q. Then let us get it down. You have 52 cuttings up to that point?—A. Yes.

Q. Perhaps it will be well, inasmuch as you object yourself up to Rennie, perhaps you had better tell us how many cuttings there were from this point up to Rennie. It won't take you long will it?—A. I will start fresh and count them on from that point will I?

Q. Yes, that is right.—A. (After examining profile) There are 71.

Q. Is that up to Rennie?—A. About 70 up to the end of that profile.

Q. That does not take you up to Rennie?—A. Not quite, about 10 miles short.

Q. There are you say about 70 more cuttings, and that takes you up to within 10 miles of Rennie?—A. Yes.

Q. And upon the whole of that division No. 8, you never made any diggings whatever, according to your notes?—A. Oh yes, as I told you, I have some big ones beyond the end of this profile.

Q. How many diggings have you?—A. I have only come to one, I will have to look back and find out—8817, that is the one I have given you.

Mr. CHRYSLER.—Yes, that is the one I have here.

By Mr. Smith:

Q. That is the one you gave, and that is one other that wasn't in controversy?—A. I don't think I have any more, I am sure I haven't.

Q. To sum up, Mr. Lumsden, in Divisions 5, 6, 7, and 8 you took no measurements whatever anywhere?—A. We made no measurements.

Q. In fact during the whole of your visit on that arbitration trip you never took any measurements?—A. No, except the measurements I took in order to get out the stake line, but those are not measurements for quantities.

Q. And the diggings that you made for the purpose of inspecting the slope, what remained, you have given to us now?—A. Yes, that is as far as I know I have given you them all.

Q. And there are none others?—A. As far as I know there are none others.

Q. And you have very carefully examined your notes day by day?—A. I haven't detected any.

Q. You are perfectly certain there are no others?—A. I don't think there are any others.

Q. And the figures which you have given us from your notes are the average of the opinion of yourself and Mr. Kelliher and also of Mr. Schreiber in certain cases?—A. They are in every case what I thought.

Q. What you were willing to accept as a compromise?—A. Yes, what I put down as my figures eventually.

Q. Eventually? Quite so. Then I think, Mr. Chairman, we will adjourn at this point.

Committee adjourned until 11 a.m. Tuesday 12th April.

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TUESDAY, April 12, 1910.

The Committee met at 11 a.m., Mr. Geoffrion (Chairman) presiding.

The examination of Mr. Hugh D. Lumsden, continued:—

By Mr. Smith:

Q. At the adjournment, Mr. Lumsden, we concluded the examination respecting the arbitration proceedings on District F. I would like you to tell us just when you began the examination on District B. If you refer to page 180 of the proceedings of this committee, near the top of the page, you will see there, in answer to the question, 'When did you go to Section B'? You said, 'We reached Quebec on Tuesday, the 15th June'?—A. Yes.

Q. And you began, with the other arbitrators, the work of inspecting Section 'B' on the 16th?—A. Yes. We reached the end of the track on the 16th, mile 141.

Q. Is that where you began your work?—A. We started from there to walk out.

Q. How far?—A. Somewhere in the neighbourhood of eight or nine miles.

Q. You have it here that on Saturday about 4.50 in the morning you walked out to Creek à Shea, which was about the 150th mile?—A. Yes.

Q. That portion was not in dispute between the Grand Trunk Pacific and the Transcontinental?—A. No.

Q. What was your object in going beyond the scope of the arbitration?—A. Well, as far as I was personally concerned I was willing to go, and the other arbitrators wanted to go further, wanted to see to the end of the 150th mile.

Q. Although the matter had never been submitted to arbitration at all?—A. No; I didn't on that portion consult with them; I didn't go over it with them; that is, I didn't compare notes with them.

Q. Did they make any notes?—A. I believe so.

Q. Of that portion, even though it was not in dispute at all?—A. I believe they made notes.

Q. From your notes are you able to tell us the time that you spent, respectively, on the portion that was in arbitration or in dispute, and the portion that was not?—A. Apparently I spent the whole of the 17th and part of the morning of the 18th over the work that was not in dispute.

Q. My instructions are that upon Section 'B' there were only disputes extending over about 32 miles; is that correct?—A. I would have to look up the stations before I could tell the mileage.

Q. Perhaps it would refresh your memory if you were to look at the first page of the Return, Sessional Paper 42a. There seems to be, in this letter addressed to you by Mr. Woods, a reference to the portion between miles 115 and 132—from the Batiscan river west for fifteen or twenty miles, and later, from miles 115 to 132; so it would appear to be from Batiscan river to the 132nd mile; how much would that amount to altogether?—A. The mileage from the Batiscan river, I don't remember definitely.

Mr. DOUCET.—From the 65th to the 85th miles, twenty miles; then from 115 to 132, seventeen miles.

The WITNESS.—Thirty-seven miles, practically.

Q. That would appear to include all the portions that any complaint had been made about, and which was submitted to arbitration?—A. That appears to be so.

Q. But from your evidence in answer to questions by Mr. Chrysler, it appears that you and the other arbitrators went over about 100 miles?—A. Yes.

Q. Well, I suppose you must have spent more than a day and a half on 63 miles wouldn't you? You were telling us that you spent one day and a portion of another day?—A. Oh, but that is on the north end; that is simply on the portion from the north end to where the disputed points arose.

Q. What distance would that be?—A. Judging from these figures, it would be 18 miles.

Q. I am quite right, I suppose, in assuming that what you said in that statement which you fyled here—that you had lost confidence in the engineers and in the engineering staff because of your visit at the time of the arbitration—refers to and covers this arbitration trip that we are now speaking about?—A. Yes.

Q. It was on account of what you then saw?—A. On this and the previous one, on 'F.'

Q. This is the trip on District 'B' that caused you to lose confidence in the engineering staff?—A. Yes.

Q. On that 18 miles that you covered in the portion of two days, what did you do? What sort of an examination did you make?—A. Similar to what we did on District 'F'—what I did on 'F,' with the exception that I don't know whether we did any digging there or not. I don't remember that we did any digging.

Q. Would it be troubling you too much to look at the profile and tell us how many cuttings there are in that 18 miles?—A. I could count them up on the profile.

Q. Mr. Huestis will show you that profile; will you tell us what diggings you made on the 18 miles?—A. I don't know that there were any made on the 18 miles. (Examining profile.) I don't see on that eighteen miles any mention of digging.

Q. Of course, if there had been any diggings you would certainly have noted it? —A. I think so.

Q. So we may assume that now as conclusively proved, that you made no diggings?—A. I don't think I made any diggings.

Q. What about measurements? Did you take any measurements?—A. No.

Q. None whatever?—A. None that I remember of.

Q. And that, of course, would be a thing that you would naturally have noted in your notes if you had made them?—A. Yes, I am satisfied I did not measure anything.

Q. Mr. Huestis will give you the profile—I should like to know just what are the cuttings on that 18 miles?—A. (Examining profile.) A hundred, practically.

Q. Now let us get very clearly, from which mile to which mile, that 18 mile extends?—A. 132 to 150, that is what I believe it to be.

Q. From following the profile, Mr. Lumsden, it appeared to me that many of those cuttings were very deep?—A. Some of them are, and some of them are very small.

Q. But take that 18 miles on the whole, it represented very heavy work, didn't

Q. Is that along the St. Maurice river?—A. A portion of it.

Q. Not only a lot of work, but what I mean is that it was very heavy and very difficult construction?—A. It was heavy work.

By Mr. Clarke:

Q. Is that along the St. Maurice River?—A. A portion of it.

By Mr. Smith:

Q. So that in a portion of two days you and the other arbitrators made an examination of one hundred rock cuttings, and you never——?—A. I don't know that they were always rock cuttings; cuttings.

Q. A majority of them, of course, would be rock cuttings, in that country?—A.

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Well, there is a great deal of rock; I wouldn't like to say that the majority of them were what I would call rock cuttings.

Q. I don't want to bind you down to any form of words, Mr. Lumsden, but at all events in the time that you have mentioned here, a portion of the 16th and of the 17th, you made an examination of one hundred cuttings extending over 18 miles, some of them you say deep and heavy work, and you have no measurements, and you never even once dug into the face of the slope?—A. I don't think so.

Q. The other 20 miles, or 19 miles, or whatever it is that you did, will you give us some information with regard to it?—A. Which 19 miles do you refer to.

Q. That will be from the Batiscan river west for fifteen or twenty miles; it will be from the 132nd to the 115th back?—A. That is the continuation of what I gave.

Q. Quite so? (Profile produced by Mr. Huestis).—A. (After examining profile) There are 46 cuttings.

Q. 46 cuttings on that 17 miles?—A. On that 17 miles.

Q. I will make the same remark with regard to the character of these cuttings. Were they not extraordinarily deep and heavy cuttings?—A. There were some very heavy cuttings.

Q. Well, my instructions are that that 17 miles is the heaviest construction on the whole of the Transcontinental?—A. I am not prepared to say as to the quantities of it, but it is a very heavy piece of work.

Q. As an engineer, do you think it is possible to inspect that which you admit was very heavy construction, and which I am instructed was the heaviest construction on the whole Transcontinental, riding in a handcar, or walking, without making any measurements, and without causing any diggings to be made into the side slopes—do you think as an engineer that you could form very much of an impression as to what the material was before it was taken out?—A. I certainly did. I formed an opinion of what it was.

Q. Many of these cuttings would take months and months to make, would they not?—A. Yes.

Q. And the engineers would be examining the material taken out from day to day?—A. I presume so.

Q. Would you think it a reasonable thing to do, to put your opinion made or acquired from, I think I am right in calling it, a very cursory examination, against the classification made from day to day by the resident engineers as the work was being done?—A. All I can say is that I could not agree with it.

Q. What was the next portion that you examined on District B?—A. We continued on southerly.

Q. Those 17 miles that you have just been speaking about were included in the arbitration I believe?—A. Yes.

Q. Now, where was the next portion that you examined?—A. We continued southerly, or easterly, continuously.

Q. Tell us how long you were examining those 17 miles?—A. A portion of the 18th and a portion of the 19th of June.

Q. How many hours?—A. I can't tell the exact number of hours, but I should think about two-thirds of the two days I should think about somewhere in the neighbourhood of that. Altogether about a day and a third, I should think.

Q. Over extraordinarily heavy work?—A. Yes.

Q. You remember that in 1907 you had gone over some 6 or 7 miles of this same 17 miles?—A. Yes.

Q. If I remember well?—A. Yes. We went over 5 miles of it. That is my recollection of it, I don't know the exact distance.

Q. Well, 5 or 6, or 7 as the case may be?—A. Yes.

Q. And you examined a number of the cuttings there, in which assemble? rock

was classified?—A. There was no assembled rock at that time. The classification of assembled rock, or the so-called assembled rock, was not until 1908.

Q. But it is not the name of the thing that I am talking about, but the thing itself.—A. The same material I suppose?

Q. Yes.—A. Yes.

Q. And you remember that when you went over it you raised the same objection to the classification, to what you subsequently called assembled rock being put in as rock?—A. No, I can't say that I raised objection to the classification because there was other material than rock in it.

Q. According to the view which you then entertained?—A. Yes.

Q. And I think I am right in saying, according to the view which you still entertain as to what rock is? You think that is a fair statement of it?—A. Well, as far as the actual rock is concerned.

Q. You objected to the classification?—A. Yes.

Q. This, I think, was in October?—A. Yes, October, 1907.

Q. Then you made your interpretation in January, 1908, in which you introduced a new term?—A. Yes.

Q. Assembled rock?—A. Yes.

Q. Of course you did not introduce a new thing?—A. No.

Q. But you introduced a new term?—A. Yes.

Q. After you made that interpretation in January, 1908, did you raise any further objection to the classification on this 5, 6 or 7 miles which you had previously complained about?—A. I don't recollect of making any special objection to it.

Q. Is it not the fact that your amended interpretation of the specifications in your own view covered the complaint which you had made with regard to this classification?—A. I don't think it covered all the complaint or anything like it. I think it covered a portion of it.

Q. If it didn't cover it all, what steps did you take to correct that classification?—A. Well, I thought the engineers would take the steps to correct the classification.

Q. Well, Mr. Lumsden, you went on the ground and you formed an opinion or you got some impression that—you will correct me if I am wrong in this—would be more likely to be right in 1907 than it would in 1909, wouldn't it? Whatever impression you got would be much more likely to be right in 1907 than it was two years later?—A. In the cuts that were being made in 1907 it would.

Q. Yes, naturally.—A. Yes.

Q. And even in the cuts that were not exactly being worked, you have told us from time to time during your examination, that time would work changes?—A. Yes.

Q. That climatic influences would work changes, and so on. Consequently the sooner you can examine the work that is done the nearer you are likely to get a correct impression, aren't you?—A. It depends on the work whether it is all rock. Of course if it is all rock I don't think it makes much difference.

Q. If it is all rock and you can see the sides and you have got a slope of one-quarter to one there would be less change than if the slopes are one to one and a half?—A. Yes.

Q. At all events, whether it was one or the other, you would be likely to get a much better and much correcter impression in 1907 than you would two years later?—A. Yes.

Q. Very well. Then you made your amended interpretation in January, 1908?—A. Yes.

Q. What I want to ask you is, if in your opinion your amended interpretation did not cover the ground of your complaint in 1907, why did you not take some steps?—A. I wrote to the engineers to take steps, that if they didn't correspond to my interpretation to make it so.

Q. And is that all you did?—A. That is all I recollect at the present moment.

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Q. And you never went there?—A. I was not up to that work again until——

Q. Why did you not go up to that work?—A. Well, I didn't go. I was not up there, as a matter of fact.

Q. It would seem to me that where you had a portion of the work that, from all the discussions that have been going on, was an unusually heavy portion, you would have taken steps to fix some standard with regard to the classification of it?—A. Well. I thought that that amended specification fixed a standard.

Q. Now, all that you are able to say to this committee is that your amended interpretation covered a portion of your complaint but in your opinion didn't cover it all? —A. Yes.

Q. Can we get any nearer to it? Can you tell us what proportion of your complaint was covered?—A. No, I can't.

Q. Now, I am not going to ask you to give the figures, because that would be too tedious, and I don't think would serve any useful purpose, but did you put down in your note-book from station to station the returns which you got from the resident engineers and then put it in your own estimate?—A. Yes.

Q. You yourself did not estimate the quantities as you did on District 'F'?—A. I did, just in a similar way.

Q. As to the portion that was involved in the arbitration you would take the average of your own opinion and the opinions of Messrs. Kelliher and Schreiber?—A. I won't say we took the average opinion, I don't know that we did in every case. In case of dispute we talked it over and arrived at a conclusion between the two of us and very often between the three of us.

Q. If you and Mr. Kelliher could strike an average between you, or agree upon some average between your views, you put that down in your note-book?—A. Yes.

Q. And if you could not you brought Mr. Schreiber into it and between the three of you you arrived at some conclusion?—A. Well, that is my recollection of it.

Q. Which figures were absolutely arbitrary and a pure guess, weren't they?—A. They were arbitrary. They were simply an opinion, they were not measurements.

Q. Now, I wish to put before the committee what the work amounted to that you were going over and the time it took you to inspect it, so perhaps you will tell us the next portion that you examined—tell us from your notes?—A. You mean from the 115th mile south.

Q. Yes. Of these 17 miles we have been discussing in order to identify it more clearly. I suppose I am right in saying that this is what has been spoken of as the La Tuque portion?—A. The portion you have just been speaking of is the La Tuque portion.

Q. Now, where was the next portion you had done?—A. I presume it is from Batiscan river to the hundred—do you want me to give the number of cuttings between the 115th mile and the Batiscan river?

Q. The remaining portion that you examined to complete the hundred miles. I want you to shorten it up by telling us how many cuttings there were and how long it took you to examine them?—A. From station 85 to 115 there are 127 cuts in all.

Q. The last portion which you are now speaking of is not in dispute?—A. No.

Q. Does that finish the whole portion?—A. No, sir, that takes in the 85th to the 115th mile.

Q. Just give me the total number of cuttings, that will be the shortest way.—A. The total number of cuttings between the——

Q. No. The total number of cuttings in the whole of the rest of the portion of the hundred miles that you examined with the arbitrators. That will be the shortest way to get it?—A. There are 193 cuts, but that is not the end.

Q. Well, give us the whole of it, all that you examined of that 100 miles.—A. 246 cuts.

Q. Is that the total now?—A. That is not including the first. That is the total from the 115th mile.

Q. That is the remaining portion of the 100 miles that you examined?—A. That is what I believe it is, the 115th mile.

Q. You have how many there?—A. 246.

Q. How long did it take you to examine that portion of the road, including the 246 cuts?—A. As near as I can tell, about two and a half days, two and three-quarter days.

Q. Of course you were not working all the time in the two and three-quarter days. You would not be all the time actually on the work?—A. Well, we have pretty long hours on the work.

Q. That I have no doubt?—A. For instance, we start at 6 o'clock in the morning.

Q. Within the space of two and a half days you inspected 100 miles?—A. 246 cuts.

Q. 246 cuts extending over how many miles? How many miles are represented in that 246 cuts?—A. About 65 I think.

Q. 65 miles?—A. Yes.

Q. And you not only inspected but you reclassified all those cuts?—A. I put down what I believed to be the classification of those cuts.

Q. And that that is true with regard to District 'F' and the whole of district 'B' that you not only inspected, but that you reclassified?—A. Well, I put down what my idea of what the classification was from what I saw on the ground.

Q. What information did you ask from the engineers on district 'B' when you were going over the work?—A. I don't think we asked very much.

Q. Were you aware that they had photographs of some of the principal cuts when they were actually in the making?—A. I saw some of the photographs.

Q. At that time?—A. I don't know whether I saw them at that time. I had seen them though.

Q. All that you asked from the engineers was to tell you what were the returns made for this cut, and then you simply put down on paper your own estimate, or an average of estimate, and re-classified in that way?—A. That was generally right.

Q. That was generally the way you did it?—A. Yes.

Q. When you went on this work did you have with you a copy of a draft agreement to submit to the arbitration?—A. A draft agreement.

Q. Yes?—A. Not that I recollect.

Q. Turn to page 172 of the evidence?—A. Yes. I do not recollect having that with me. Remember seeing that before though.

Q. Did the other arbitrators have that agreement with them?—A. Not that I know of.

Q. Of course you are aware that that draft agreement was never executed?—A. No, never executed.

Q. In that agreement you remember that paragraph A was giving power to the arbitrators to put any interpretation on the specifications which would be binding as regards all work that would be done or all work that would be done in the future?—A. I don't remember what that was. It was never acted on and I never paid any attention to it.

Q. I want to get at this, Mr. Lumsden, whether that agreement did not influence this arbitration trip that you have been talking about; this trip that caused you to lose confidence in your engineers, whether this draft agreement did not have some influence on you?—A. None on me; I never thought of this draft agreement, as far as I know, and I don't think that the others did.

You sent that to be executed by the Commissioners?—A. No, I did not. I handed it to the Commissioners.

Q. You handed it to the Commissioners?—A. Well, when I say I handed it to the Commissioners, I am talking from memory, I don't remember exactly how I came into possession of it.

Q. You remember that it was drawn up by the Grand Trunk Pacific?—A. Yes.

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Q. By their solicitors?—A. Yes.

Q. You may also be clear in your memory as to this, that Mr. Parent, the Chairman, absolutely refused to execute it, because of the terms?—A. I believe I recommended it should not be executed too.

Q. That it should not?—A. I believe so.

Q. Do you remember going yourself, of your own motion, to get the opinion of Mr. Newcombe regarding it?—A. No, I don't recollect that.

Q. Don't you remember going to see Mr. Newcombe to ask him whether it ought to be executed, or whether it would be binding upon the Crown, and so on?—A. I don't recollect that.

Q. Don't you remember first of all going to Mr. Newcombe's office in the Department of Justice, then out to the Golf Club, then to Mr. Newcombe's private house to get his opinion on this draft agreement?—A. I remember perfectly well going to see Mr. Newcombe, but I don't remember whether it was in connection with this draft agreement, whether it was in connection with that or in connection with something else. I remember perfectly well the day on which I followed Mr. Newcombe to the golf grounds. I don't remember what my object was in doing so.

Q. You don't remember what opinion you got from him?—A. No, I don't remember that.

Q. Whatever opinion you got from Mr. Newcombe, do you remember the following day after getting that opinion, sending that to Mr. Schreiber, this draft agreement which was not executed by the Crown, which Mr. Parent refused to execute?—A. I believe I either sent him or gave him a copy of that proposed agreement.

Q. And he had it, whether he had it in his hands or not, during the visit that you made with him that caused you to lose confidence in your engineers?—A. I don't remember whether he had or had not; I don't remember it ever being referred to.

Q. Do you remember writing to Mr. Chamberlin, by instruction of the chairman, that the Commissioners would not accept this agreement?—A. I believe I did; I would not be positive.

Q. It is in here?—A. I believe I did.

Q. It is on page 174 following. It is Exhibit No. 28?—A. Yes.

Q. Well now, after writing that letter, Exhibit No. 28, did you not still send this agreement to Mr. Schreiber?—A. I cannot say that I sent him the agreement or handed him a copy of what had been proposed by the Grand Trunk Pacific.

Q. Well, Mr. Lumsden, what object had you in handing Mr. Schreiber that form of agreement after it had been rejected by the Chairman of the Commission, and after you upon instructions of the Chairman of the Committee had written to Mr. Chamberlin, saying that it would not be executed on behalf of the Crown, and after getting the views of Mr. Newcombe, whatever they were, what object had you in putting Mr. Schreiber in possession of the terms of that agreement?—A. I don't recollect that, whether it was before or after this letter that I had handed Mr. Schreiber a copy of this agreement or proposed agreement, I cannot say; I don't recollect.

Q. Now, to change the subject abruptly, there were certain portions of the work that were very exceptional, were there not? Take the specification on page 40 of specifications, paragraph No. 41?—A. 'Material excavated from the foundation pits shall be deposited in the embankment unless otherwise directed.'

Q. That last line says 'solid rock in such foundations will be paid for at the rate of three times that given in schedule, item 4'?—A. Yes.

Q. Don't you remember a certain amount of work of that kind being done previous to this clause being introduced in the specifications?—A. I believe there was.

Q. This clause 41 was an amendment to the specification, which was not in those annexed to the first contract?—A. The latter part of that clause 41, I think, was an amendment, where the price for solid rock was mentioned.

Q. Where there was a provision made that it should be paid for at three times the amount of the schedule price?—A. Yes.

Q. What had you done and what had you sanctioned previous to that amendment, and with regard to contracts that had not that provision in the specifications?—A. I cannot say what I sanctioned previous to that.

Q. You returned work done and gave estimates on three times the schedule rate, did you not?—A. My recollection is that on the two contracts, as I recollect on district 'B' and district 'F' that were let previous to this amendment in the specification, that I treated them as if that item had been in the specification; that is where it states that solid rock in the specification shall be paid for at three times the rate given in schedule No. 4.

Q. You tried to get at the value of the work?—A. That was in the subsequent contract, and I treated the two previous contracts or endeavoured to do so in the same way.

Q. And you were satisfied that it was not over paid. It was worth the money?—A. I thought it was worth the money.

Q. I want to ask you a question about the eleven and a half miles built by the Grand Trunk Pacific, that would be in district 'F'?—A. Yes.

Q. You inspected that eleven and a half miles?—A. Yes; we did not spend very much time on it. We did not get off the car on that.

Q. You did not spend very much time on any portion of it?—A. We did walk on the other.

Q. What do you say as to the classification of that eleven and a half miles?—A. Well, from what I saw of the classification, as I said before, it was just as bad as any of ours, if not worse.

Q. Mr. Lumsden, before I close your examination, can you give us any further information as to why this road—perhaps it is better for us to limit it to the portions in question, because we did not want to go beyond the scope of the reference—'F' and 'B' are costing more than the estimates which were first given to parliament?—A. I cannot tell you unless you can tell me which were the first estimates which were given to parliament.

Q. There were $56,000,000 the first——A. I know nothing about those contracts. I understand how there was an estimate over what we prepared for the contractors.

Q. In the first place, the estimate that was first spoken of was the estimate—perhaps I should not call it an estimate—given by Mr. Schreiber; they were the first figures which went to parliament?—A. The $54,000,000?

Q. You told us you had no idea how that was——A. No, I don't know anything about it.

By Mr. Macdonald:

Q. You don't know how that was made up, do you?—A. I don't know how it was figured up, but I think possibly it was figured up on what roads cost in a somewhat similar country using the grades that had heretofore been used of one per cent. That may have been how it was got up, but I cannot say.

By Mr. Smith:

Q. That would probably be an explanation?—A. I cannot tell you whether it is an explanation or not, but it would suggest itself as being one.

Q. You are aware there were no surveys made? It would be simply the estimate of an engineer sitting in his office that possibly a road could be built for that money. That would be all it would be?—A. As far as I know that is all it could have been.

Q. Then the first things that would have been called estimates, properly speaking, would have been the first figures made up——

By Mr. Macdonald:

Q. Before that, at that stage at which the $54,000,000 was given as an estimate

there was not sufficient information at hand to enable any accurate estimate to be made, was there?—A. I should say not.

By Mr. Smith:

Q. Then the first things that could have been called estimates would be what you compiled from the figures given by your district and divisional engineers on the preliminary lines?—A. Sometimes on the preliminary and sometimes on location.

Q. And that, if I remember correctly, was $114,000,000?—A. Well, that $114,000,000 was made up after we had got some further information. The first estimate —that is taking the individual estimates for the various contracts—take the first and second contracts that were let; by the time we had made up that summary in which that $114,000,000 was included, we got some fresh figures over and above those which we had made at the time the contract was let.

By Mr. Macdonald:

Q. Can you tell us what the estimated cost, Mr. Lumsden, was on the basis of the contracts as they were let? The total estimated cost?—A. We made no totals. We simply had each individual contract separately, what it was, and we never summed up until after we had got further information regarding several of them, the first which were let, and which were found to indicate an increase over the contract figured; those we used in making up the $114,000,000. That is my recollection of it.

Q. Well, you did not have any more exact information in regard to those for which the contracts were not let, at the time you made the estimate than before. You were simply assuming matters would go along the same as before?—A. The only ones I recollect we made amendments in were those in which considerable work had been done.

By Mr. Chrysler:

Q. That is upon the earlier contracts including McArthur's contract on District 'F' and Macdonell and O'Brien's contract on District 'B.' You had your contracts let in New Brunswick at that time also, upon which work was done?—A. I don't recollect that. I know we had further information on those two contracts.

Q. The ones from which you would derive information from the actual work done?—A. Yes.

By Mr. Smith:

Q. In all events, Mr. Lumsden, let me put the question to you generally first: Is it not a fact that in building a railway, and particularly a railway in such a country as that, you are constantly revising the line?—A. Yes.

Q. Take the C.P.R., for instance, are those rails laid now upon more than a small proportion of the distance on the original location? They have been revised twice over, haven't they?—A. Well, that depends, in some sections of the country they have and in others they have not; in some cases they run for considerable stretches where the road was first built.

Q. As a matter of fact, isn't it notorious among engineers that even the C.P.R. has been frequently revised, even since its first construction?—A. Many parts of it have, but not if you state it as a whole, it has not.

Q. I didn't say, as a whole, but my instructions, the instructions I have received from outside engineers, are that it has, is not that true?—A. Of course, as I say, certain sections have been very much revised.

Q. And much more so, isn't it the case when you are projecting a road for the first time, an absolutely new road through new country?—A. So far it is, but you must remember that we were projecting ours with the idea of making easy grades, whereas the older roads had projected and built theirs with heavy grades, and their changes have been principally, of late years, for the purpose of reducing those grades.

By Mr. Chrysler:

Q. And curves, I suppose?—A. And curves.

By Mr. Smith:

Q. With regard to the grades, you said it was probable that figures for the first 54 miles which were mentioned represented one per cent grade?—A. I can't say whether it did or not, that is only a suggestion; that it might have been figured in that way.

Q. Well, to build a four-tenth grade would cost a great deal more, wouldn't it?—A. A great deal more.

Q. How much more; would it be twice as much or three times as much?—A. I have been astounded in the difference in cost myself, but I can't say as to what extent it would increase it, but it makes an enormous difference.

Q. That is not suggesting anything with regard to classification or anything else, you have been astounded at the real difference in the work?—A. Yes, there is a very, very much larger amount of work to get the four-tenths grade than there is to get the 1 per cent grade, in some sections of the country it is enormously so.

Q. Of course this road has been built on a four-tenth grade?—A. Yes.

Q. The standard in this country previously, and up to the present time, except in regard to this road has been 1 per cent, hasn't it?—A. I can hardly say that is the standard, but that is generally acknowledged that 1 per cent was considered a fairly good grade.

Q. Now you explained to us before that wherever the preliminary line was varied with the grades, the estimate of quantities would be varied?—A. It would be varied, yes.

Q. And I think you told us that in places the line as finally located was ten miles away from the preliminary line on which the first quantities were sent in?—A. I can't say as to that.

Q. There is nothing——?—A. I can't say as to that.

Q. There is nothing to show that it was not—in the first place you told us that it was miles apart at some places?—A. We had preliminary lines run miles apart, but I cannot say that we were using the estimates on lines miles apart in making up the first estimate, I can't say that.

Q. But you know that in many places the preliminary lines were used for that purpose?—A. Yes, I know the preliminary lines were used.

Q. And you also know that the preliminary lines were varied very much before final construction?—A. Very often they were.

Q. What you are not able to say is how much difference there would be in the variations that actually took place?—A. No, I can't say.

Q. Well, of course, no one can say that from memory, but I think perhaps you will be able to say this much, that the first or the preliminary line would not be any accurate indication of the quantities upon the line as finally located.—A. Well, I can't say whether it would or would not be, sometimes it is and sometimes it is not.

Q. Yes, but if it is it is only so coincidently.—A. You generally endeavour to get your preliminary line as near to what your final location will be as practicable, and you may get the quantities very nearly the same.

Q. You may do so, but if you do it is a coincident?—A. Yes.

Q. If you fix your final location line 4, or 5 or 6 miles to the east, west, north or south of your preliminary line naturally, if you get the same quantity, it is a coincidence?—A. Yes.

Q. Now we are told that the cost is exceeding $114,000,000, that is so, isn't it?—A. I can't tell you.

Q. You don't know, eh?—A. No.

Q. What I want to get at is this, now can you give us any information as to whether the quantities, that is the actual quantities, leaving out altogether the ques-

tion of classification, the actual quantities within the lines of the cross-section haven't proved to be very much greater than the estimated quantities.—A. I can't say as to that positively, but I can say this, that if the quantities inside the lines were estimated where it was supposed to be rock and to be taken out at ¼ to 1 slopes, and afterwards found to be other material than rock with 1½ to 1 slopes, the quantities will be enormously increased.

Q. And I suppose that acording to your revised interpretation of January, 1908, where you introduced the new section or term 'assembled rock,' that in many cases would be the natural result, wouldn't it?—A. There would be cases in which that would result.

Q. And would result without laying the matter open to any adverse criticism from yourself or any other engineer?—A. It would in some cases no doubt.

Q. And of course that would, as you said a moment ago, enormously increase the quantities?—A. Yes, that would very much increase the quantities.

Q. Are you able to say from memory, Mr. Lumsden, whether that estimate of $114,000,000 included the rails?—A. I can hardly say from memory; I am under the impression it did.

Q. Did it include ties?—A. I believe it did; my recollection of it is that it was meant to include everything.

Q. You discovered afterwards that it did not include everything?—A. I can't remember now; I can't remember what was omitted from it.

Q. Did it include steel bridges?—A. I am under the impression it did. I am not clear.

Q. Did it include stations?—A. I was under the impression it included everything, but I can't say what the figures included from memory.

Q. What are the figures that it was made up from?—A. I expect they are in the Transcontinental office; personally I don't know that I have any figures; I may have some in some note book, but I can't say.

Q. Will you look it up?—A. I am afraid it is of little use hunting for it because my papers are not separated out and I don't think I can find them.

By Mr. Moss:

Q. You can look at them at the office?—A. They might look them up at the office.

Q. And you can refresh your memory by looking at them?—A. I think so, if I knew them again, I don't know.

By Mr. Macdonald:

Q. I suppose there are some documents on file in the office there which will show the items that went into that estimate?—A. That is so, I think so. I think all the items must be shown in the office.

By Mr. Moss:

Q. I would like if Mr. Lumsden would be kind enough to look into that during the adjournment?—A. If they will bring the papers up here I will look at them.

By Mr. Smith:

Q. Can you say whether this estimate included the terminals at Quebec or Winnipeg?—A. I rather think this did not include the Winnipeg terminal at that time, my recollection is that it was not included.

Q. Now, Mr. Lumsden, you have told us about this arbitration trip. When was it that you first made up your mind to resign your position as chief engineer?—A. I can't tell you the exact date. I made up my mind before I got through on district 'B.'

Q. Before you started out on this arbitration tour of inspection with Mr. Schreiber and Mr. Kelliher, was it in your mind to resign your office?—A. I can't say that it was; I don't recollect that I had made any definite plans in my mind at all.

Q. Previous to your going out there on this arbitration trip I understand there was no friction, no difficulty practically between you and your engineers?—A. No, I don't think that there was.

Q. When you went out on that arbitration trip, as far as your relations personally with the district engineers and the divisional engineers, and any of the engineers with whom you were brought into personal contact, as far as those relations were concerned they were friendly and there was no friction?—A. I believe so.

Q. While you had had a long-standing difference with regard to the interpretation of the specification, under your interpretation of January, 1908, you had no further friction with your engineers?—I can't remember any friction.

Q. Can you recall any instance at all where your district engineers or any of the engineers questioned your authority?—A. No.

Q. In any way at all?—A. No.

Q. They received your instructions, and after your amended interpretation you never had occasion afterwards to differ from them or have any question with them until this arbitration?—A. Well, I believe I talked over one or two matters with them in one or two trips I was over in 1908.

Q. But these would be exceptional matters?—A. They were matters that cropped up on the ground.

By Mr. Moss:

Q. You made no complaint at any rate?—A. Well, I spoke to them with regard to classification and one thing and another.

By Mr. Smith:

Q. Inasmuch as you had no difference concerning the system of classification, and inasmuch as you had no controversy with your engineers concerning the whole subject of classification, I assume that there was no friction, no trouble between you? —A. No, except I was insisting on having measurements of all rock and, in the first instance, in some cases there were no measurements.

Q. In fact before you went on this investigation you wrote Mr. Woods and stated that you could not think of questioning the classification of men who had classified on the ground as the work was proceeding. The letter is on file?—A. I told Mr. Woods I would not agree with him.

Q. That you would not agree with him?—A. Yes.

Q. I think you also told him, did you not, in that letter that is upon the file, that without measurements and diggings, considerable measurements and diggings, it would be impossible for you to question the classification of your engineers?—A. I won't say I told him that; I told him something of the kind, I don't remember the details of what I told him.

Q. Mr. Lumsden, if you refer to the proceedings before the Committee, on page 292?—A. Yes.

Q. The letter is Exhibit No. 56?—A. Yes.

Q. In that letter you say:

> 'What I mean is this, that if on examining work, say a cutting practically finished, I thought the classification appeared to be excessive, I would not be prepared to ignore the classification made by the engineer who had seen the work from day to day, and state what the classification should be, without being able to verify my own ideas by actual measurements and observation of material found beyond the slopes and of the material taken from such cutting for waste where the material has been deposited. This would take considerable time, but would give a good idea of any great excess of solid rock or of other classified material that might have been returned in such cutting.'

—A. Yes.

Q. These were your views on May 15, 1908?—A. Yes.

Q. And you have told us that you went over the ground with Mr. Kelliher and Mr. Schreiber, and on the whole of District 'B' you went over 100 miles with hundreds of cuttings, that you walked through them, you took no measurements with respect to any cutting and didn't make one single digging into the slopes in the whole of that 100 miles?—A. I am not prepared to say we didn't make any diggings on the slopes of that 100 miles, I didn't say so.

Q. I asked you, if you did?—A. You asked me a question referring to that first nine miles.

Q. But I intended my question to apply to the district?—A. We hadn't gone into the other portion of the district then, it was on that nine miles.

Q. Then I will have to ask you again, Mr. Lumsden, with reference to that district?—A. And I will have to go over my book again to see. I am under the impression that we did make one or two diggings.

Q. I think it will be worth the trouble to find out just what diggings were made?—A. I have a definite recollection of digging some of them, but I can't recollect from memory even the number of the stations at which the diggings were made.

Q. You might at adjournment look over the notes and see if you can find any diggings in any of those cuttings. It is nearly 1 o'clock and I want to close at 1 o'clock if possible, so I would be obliged if you would go through your notes carefully and see if you can find a single digging there?—A. I recollect some digging, but I can't remember positively where it was or the number of the station; I do not know exactly where the digging was, but it was somewhere around St. Maurice river.

Q. At all events your loss of confidence in your engineers is owing to this examination which you made with the other arbitrators, you have told us that several times?—A. Yes.

Q. How do you reconcile that with your statement in your letter of May 1?—A. In what way?

Q. You certainly took no measurements on Section B at all?—A. No.

Q. You certainly took no measurements on District F?—A. No.

Q. You never took measurements on any one of the stations in these two districts?—A. No.

Q. Well, now, in your letter you state that you couldn't form any impression that you would not be prepared to ignore the engineers' classification without actual measurements?—A. That is why I resigned.

Q. Why?—A. Because I could not agree with them; they had measurements, but in my opinion I did not agree with them.

Q. Did you form your opinion on premises that you say in your letter of May 15 would be entirely inadequate?—A. Well, I formed them from my experience on the ground; that is all I formed them on.

By Mr. Macdonald:

Q. You wouldn't have the same data before you as the engineers had?—A. I don't pretend to have had measurements or the same data, but I formed my opinion simply——

By Mr. Smith:

Q. You said a while ago that the classification on this 11½ miles of District F built by the Grand Trunk Pacific was as bad if not worse than the other portions?—A. I would not agree with it nor pass it any more than I could on the others.

Q. But, Mr. Lumsden, you certified the progress estimates and paid money for it, didn't you?—A. I did, as I certified progress estimates to the whole work.

Q. Well, take the 11½ miles particularly, there were 11½ miles built by the Grand Trunk Pacific?—A. Yes.

Q. And you say that that classification was as bad or worse than anything in District F or District B?—A. Yes.

Q. Yet you certified the return of that classification and paid the Grand Trunk Pacific?—A. Yes, before I had seen it.

Q. What did you do after you had seen it?—A. I did nothing, I resigned.

Q. Am I right in supposing you resigned partly because you paid the Grand Trunk Pacific too much?—A. No, no, no.

Q. Mr. Parent, the Chairman of the Board, suggests to me that you were sent out specially to examine that eleven and a-half miles before it was paid, and that you wrote back from Winnipeg certifying to it and ordered it to be paid?—A. I did not go to examine the eleven and a-half miles that I know of.

Q. Didn't the Chairman request you to do it, didn't he ask you to do it and didn't you go there?

Mr. PARENT.—The Board did.

Q. The Board did, and you wrote back from Winnipeg saying that it was all right and to pay it?—A. I remember going over a portion of it and paying the Grand Trunk Pacific a proportion of it, 70 per cent, something like that, or 75 per cent, but at that time I hadn't the measurements or anything else.

Q. As a matter of fact didn't you telegraph from Winnipeg to pay 75 per cent of it, and didn't you subsequently authorize or tell the Commissioners to pay the other 25 per cent?—A. I can't answer that question directly, but I know I sent an engineer up there to go over it and check it up.

Q. Speaking of the difference in regard to a one per cent and four-tenths of one per cent grade, the difference in cost would be very great, as you have told us? Why should the government build a four-tenths grade instead of a one per cent grade?—A. Because it decreases the operating expenses to the party leasing the road.

Q. The permanent advantage is greater than the difference in the initial cost, isn't that the idea?—A. That is what the idea is.

Q. It was a prudent thing, I suppose, to build a high class road, wasn't it?—A. I think so.

Q. Now, I have been instructed to ask you a further question as to when you drafted your letter of resignation, Mr. Lumsden? How soon after your return from this arbitration visit did you draft your letter of resignation?—A. Very shortly, I don't remember how soon; I don't remember, it was within a day or so.

Q. Had you in mind any other reason for resigning than the reason stated in your letter of resignation?—A. I do not recollect any or all I may have had in my mind at the time; I know I was very much dissatisfied.

Q. Do you remember preparing a letter of resignation the day previous to your writing your final letter of resignation, or perhaps two days previous, stating that you resigned, and giving as the reason for your resignation that you had asked for an additional amount of salary, and that you had asked for six months' leave of absence, neither of which had been granted, and that consequently you resigned?—A. I don't recollect it; I may have drafted out something of the kind, but I know I never made use of it if I did. I made two or three drafts, if I recollect now.

Q. You are not able to say from recollection whether you drafted or dictated such a letter, putting your resignation upon this ground?—A. I can't say whether I did or not, I may have drafted dozens of letters and changed them afterwards; I know that I have drafted letters to the Commissioners and withdrawn them.

By Mr. Macdonald:

Q. Each of them assigning different reasons for resigning?—A. I may have put in other reasons, I can't say whether I did or did not.

By Mr. Smith:

Q. Was it a fact that you had asked for an increase of salary and that you had asked for leave of absence?—A. It is a fact that I had asked for an increase of salary, but that application was put in 18 months before.

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Q. And was it a fact also that you asked for six months leave of absence?—A. I had asked for leave of absence, I can't say how long.

Q. And those two facts had influenced you in asking to be relieved from your office?—A. I know I was—well, I won't say.

By the Chairman:

Q. I am not very clear about your answer a few minutes ago about that letter you wrote to Mr. Woods which has been quoted here. How did you come to change your mind, having written that letter that you did not think you could agree with him, that in order to disagree with your engineers you would have to take every precaution possible in measurements and otherwise to verify the classification, still in going over the ground you did not think it proper to make these investigations and take the measurements, etc. How did you come to change your mind?—A. There was so much difference, if it had been only a slight difference.

Q. But having said in your letter that you could not agree with Mr. Woods in his interpretation, that before you could form a difference of opinion between your own engineers and yourself you would have to take every precaution possible by taking measurements, making diggings, etc., as far as I can recollect the contents of the letter, why, when you were on the ground did you not think it proper to take those measurements and make those diggings which you regarded as necessary? You made very few diggings, and took no measurements evidently; you changed your mind since writing that letter did you?—A. I found there was very much greater difference than I had anticipated.

Q. But how could you find there was so much difference?—A. That is simply in my opinion.

Q. Without taking any measurements?—A. Without taking any measurements.

Q. Nor making diggings?—A. Nor diggings.

By Mr. Macdonald:

Q. I would like to know just what we can understand in regard to that question of writing different letters of resignation. As a matter of fact you did write some other letters than this one?—A. I can't say that I wrote them, I may have drafted them.

Q. That is what I mean, you drafted them.—A. I may have drafted them.

Q. And in those other letters that you drafted you gave reasons other than those contained in this letter before us for resigning?—A. I don't recollect what reasons I gave, I don't recollect whether they were the same or different ones.

Q. Will you kindly try your mind and tell us whether you can recollect writing at least one other letter than this one?—A. I don't recollect it, I don't recollect writing one, I do recollect writing a letter about a year before that, but I don't recollect all the contents of it.

Q. Well, sometime, about a year before.—A. A year and a half before.

Q. A year and a half before you drafted a letter resigning?—A. No, it wasn't a resignation.

Q. I am speaking about letters with regard to resigning. You made up your mind finally about this time that you would resign?—A. Yes.

Q. And you proceeded to draft letters containing the reasons why you were going to resign?—A. Yes.

Q. You made several drafts of that?—A. I may have, I don't recollect what I did in the way of drafting.

Q. Can you tell us whether there were other reasons assigned than the reasons you gave?—A. I can't tell you now whether there were or whether there were not.

Q. Have you any conception about that?—A. No. I don't recollect the wording of them at all.

Q. Did you have any other reasons in your mind?—A. I can't say now whether I had or had not.

Q. You can't say as to that, and the reasons which you did finally give were those reasons in regard to lack of confidence in your engineers, and you regret that expression as being an unfortunate one?—A. Yes, I do, and if I had to write it again I would probably put it in other terms.

By Mr. Moss:

Q. Did you have any advice in framing that letter?—A. I think that is my own affair.

Q. I don't want to go any further than that, you don't care to say whether you had or not?—A. No, I do not care to say.

Q. I would just like to ask Mr. Lumsden, so that in case there are any other documents we may have them here, whether we have now all the records there are of the arbitration; that is to say we have this so-called evidence and your note books, and apart from any notes that Mr. Schreiber or Mr. Kelliher may have that is the whole of the record of the arbitration, is it?—A. As far as I know, yes.

Q. There were no other official records kept?—A. No, not that I know of.

Committee rose at 1 p.m.

April 12, 1910.

The Committee resumed at 3.30 p.m.

Examination of Mr. HUGH D. LUMSDEN continued.

By Mr. Moss:

Q. Mr. Lumsden, you told us, I think this morning, that the only records there were of the work of this arbitration visiting the districts 'F' and 'B' were the notes in the note-books that you have been referring to here and the stenographer's notes which you produced at the commencement of these proceedings?—A. Yes.

Q. And whatever notes Mr. Kelliher and Mr. Schreiber had in their note books?—A. That is all I can think of.

Q. You apparently had no official secretary of the Arbitration Board?—A. I think not.

Q. And this young gentleman who took the shorthand notes of the examination of the engineers was a young man named Jones, was he not?—A. Yes.

Q. Who was the stenographer in your office?—A. Yes.

Q. And had acted as your private secretary?—A. Yes.

Q. Was he with you all the time that you were away?—A. Yes, I think so.

Q. When was the idea of taking evidence in shorthand first broached?—A. Well, I think it was before we left. We took him with the idea that we might want to take it in shorthand.

Q. That was not definitely understood, apparently?—A. Well, I don't remember the conversation in connection with it, but my recollection is that we took him in case we should require it.

Q. Had he any experience in that sort of work—reporting evidence?—A. I don't think so.

Q. As a matter of fact, you know he had not, don't you?—A. I don't think so. I mean to say I don't think he had any.

Q. And there was not any official appointment of a stenographer for the Arbitration Board?—A. No, not that I know of.

Q. And he was not paid in any way outside his salary as your private secretary?—A. I think not.

Q. Then was he sworn?—A. I don't recollect it

Q. You would know if he had been, I suppose?—A. Well, I don't recollect his being sworn.

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Q. Were the witnesses sworn?—A. Yes.

Q. Who administered the oath to them?—A. Mr. Schreiber, I think.

Q. If I understood correctly, the examinations, the depositions as transcribed by Mr. Jones and produced by you, constitute the whole of the recorded evidence as taken on that arbitration, do they not?—A. I think not. I think there was the evidence of one of the Grand Trunk engineers, Mr. Mann.

Q. Was that taken down in shorthand?—A. I think so.

Q. And transcribed?—A. I believe so.

Q. Where was that taken? Was it at Lost Lake?—A. I think it is along with the other evidence, but I am not positive. I don't remember where it was taken.

Q. We have it here, I suppose?—A. You have got it there I think. (Exhibit No. 3*a* produced by clerk).

Mr. CHRYSLER.—Where does this copy come from, Mr. Todd? Was that produced for the committee by Mr. Lumsden?

The CLERK.—Yes.

Mr. CHRYSLER.—It was part of his file of the evidence?

The CLERK.—Yes.

Mr. CHRYSLER.—That was produced and put in before I appeared before the committee, so that I didn't know just how it was done.

The CLERK.—Mr. Mann's evidence was not printed because according to the resolution of the committee only so much as was referred to in Mr. Lumsden's memorandum was printed.

Mr. MOSS.—I did not desire to put his evidence in; I wanted to inquire as to the proceedings on the arbitration.

By Mr. Moss:

Q. Then with the exception of the evidence of Mr. Mann, the only other thing that was taken at all under oath was the evidence of these gentlemen whose depositions you fyled?—A. I believe so.

Q. Let me understand if I have a proper idea of the procedure that was adopted. In the first place, before leaving to go to district 'F,' you had no definite arrangement as to the procedure to be adopted; is that correct?—A. That is the best of my recollection.

Q. Had you a discussion as to the procedure?—A. I don't recollect the discussion if we had any.

Q. If there was any, it must have been very perfunctory and casual, or else you would remember it, I suppose?—A. I fancy so.

Q. Then you arrived at the first cutting, and you simply started in there—got off the car and walked the cutting; was that the procedure?—A. Yes.

Q. And had you discussed with the other two arbitrators the list of cuttings which were in dispute?—A. I don't think so, not when we started out.

Q. I think as a matter of fact you said you did not recollect whether they had lists or not?—A. I am not positive whether we had the lists.

Q. You don't know whether you had one yourself?—A. I believe I had one.

Q. You did not refer to it?—I don't think so.

Q. In going over those various cuttings you made no discrimination on the ground between those that were in dispute and those that were not in dispute?—A. No.

Q. As I understand you to say, you reserved it in your mind to be sorted out afterwards?—A. Yes.

Q. But there was nothing said to the other two arbitrators about that?—A. I don't recollect any discussion regarding it.

Q. As far as they were concerned, you went on just as if the whole district was in arbitration?—A. We examined every cut alike, practically.

Q. But you made your notes and they made their notes, or Mr. Kelliher did; did Mr. Schreiber make any notes?—A. No, I don't think he kept any notes.

Q. Did Mr. Kelliher keep regular notes?—A. Yes.

Q. And you made your notes—you and Mr. Kelliher—on the sections which were not in dispute and the sections which were in dispute in exactly the same way?—A. That is my recollection.

Q. And in the majority of them, I think you said you agreed on the reduction or change in classification to be made?—A. Yes.

Q. And as far as those cuts were concerned, they were disposed of—they were regarded as being disposed of by you?—A. Where there were no measurements to be made.

Q. I mean to say, the majority of them, where you agreed on certain reduction or certain classification, that ended so far as those cuts were concerned?—A. Yes, where there was no re-measurement, where there was no question of measurement.

Q. In a certain number of cuts there were questions of re-measurement; I think some of your notes here have the word 're-measure' ?—A. Yes.

Q. In that case, there was to be a re-measurement; then did Mr. Poulin accompany you throughout that whole trip to District 'F' ?—A. I think so.

Q. But he was not called in consultation at all, or asked for any explanation until you took his evidence at Winnipeg?—A. He was asked for very little, if any. He may have been asked some questions on the ground.

Q. He tells me he was not asked for anything?—A. He was not generally asked for anything, I am satisfied of that, but at the same time he may have been asked by me or some one else regarding some single item; I don't recollect.

Q. If he says he was not asked a single item, you would not contradict that?—A. I don't say he was, I don't remember.

Q. Then did McIntosh accompany you over his whole division, or how?—A. I don't recollect how far Mr. McIntosh accompanied us at all. I don't recollect him on it.

Q. Speaking generally, when you were on a division, did the division engineer accompany you?—A. I remember Mr. Richan accompanying me. I don't remember, but I think by this time, Mr. McIntosh was not then division engineer.

Q. He was assistant?—A. He was assistant division engineer, I think, and I don't think he was there; I am not positive, but I wouldn't think he was there.

Q. Then the resident engineers in the different residencies, did they accompany you over the work?—A. Yes, I think they did as a rule.

Q. And were they asked any questions on the ground?—A. They may have been asked odd questions, but they were not consulted.

Q. And they were not asked to explain any classification?—A. I don't recollect their being asked to explain.

Q. They say they were not?—A. I don't recollect their being asked to explain the classification.

Q. At any rate you did not ask them for an explanation?—A. I don't recollect doing so.

Q. You would recollect if you had done so?—A. Well, I might have asked them about something in one cut or another, but I don't remember.

Q. At any rate it was not the practice to ask them?—A. No, I don't think I did.

Q. And they simply produced their returns, did they?—A. Yes, they gave me the figures from their returns.

Q. Where did they give you those?—A. On the line.

Q. And did they have their cross-sections there?—A. Yes.

Q. You did not look at the returns at all; you just took the figures that they gave you?—A. Took the figures that they gave us.

Q. For each cut?—A. For each cut.

Q. And did you look at the cross-sections?—A. In places we did, not in every case.

Q. You could not have looked at many of them?—A. We looked at them where there was a question about assembled rock, generally.

Q. Would that be where you thought, from the appearance of the slope, that it might be questionable whether assembled rock was there, that you called for the cross-section?—A. Yes.

Q. Have you any note of how many places you called for the cross-section in?—A. No I have no note except that some of the places, if not most of them, are mentioned in that list.

Q. They don't say anything about the cross-section in the list, do they?—A. I think they do.

Mr. CHRYSLER.—In some cases there is a note that the cross-section appears to be wrong, or the cross-section should be examined and corrected.

The WITNESS.—Yes.

Mr. MOSS.—(Reading) 'Illustrations of places where cross-sections showing ledge rock were erroneous;' is that it?

Mr. CHRYSLER.—Yes, then there are cross-sections in his notes, for instance, at page 82 (Exhibit No. 2) there are three in 'B.'

Mr. MOSS.—(Reading) 'X-sections not O.K.'

Mr. CHRYSLER.—Yes, and further down the same remark. Then, District 'F,' further down.

By Mr. Moss:

Q. Can you look through and tell me, Mr. Lumsden, how many there were where you found cross-sections wrong? Apparently you have put them all in your list here?—A. I don't know whether they are all there or not. I think most of them are. It would take me some time to go through them all. I mean to say, if I have got to count up the number, I have to go through the number, I have to go through them all, for I am not sure that they are all in this.

Mr. CHRYSLER.—But you had a heading here of places, illustrations of points where engineers did not measure rock by cross-sections; that is on page 83; and on page 81 (Exhibit No. 1) you have illustrations of places where cross-sections showing ledge rock were erroneous.

By Mr. Moss:

Q. We will come back to that presently; I don't want to take up time now, having you count them, but perhaps you will tell me now the principle you went on in selecting these illustrations which you have given in Exhibit No. 2?—A. Well, I went on no principle. I simply looked through my notes and picked out what appeared to me to be where there was the most difference.

Q. And you selected them indiscriminately from the places which were in dispute and those which were not in dispute?—A. I didn't always look to see whether they were in dispute or not.

Q. You did not look at all?—A. I believe I looked for some of them afterwards to see.

Q. But you put them in just the same?—A. They were put in.

Q. In selecting them—don't let us waste time— ?—A. I did go to work and started in to mark off those that were objected to and those that were not, but I only went so far and I dropped it.

Q. You dropped it altogether?—A. Yes.

Q. And when you put them in there was actually no discrimination between those that were in dispute and those that were not?—A. I don't think there was any discrimination.

Q. Then, to return to the proceedings on the arbitration, when the engineers had their measurements and their cross-sections, and those were furnished by them as called for by you or by the other arbitrators, who was conducting that part of it—Mr. Schreiber or Mr. Kelliher, or yourself?—A. Well, sometimes one and sometimes the other. I have asked to see the cross-sections.

Q. And they were not asked for any explanations on the ground in regard to those cross-sections?—A. I remember some were asked in places where we could not find the ledge rock. I remember they were asked how it was or where it was, where we had cross-sections showing ledge rock at certain stations, and we could not see it on the ground. I remember in the case of one engineer——

Q. Who was that?—A. One in District 'F'—I do not remember whether it was Mr. Millar or Mr. Bell—where we couldn't find it. I understood afterwards from Mr. Poulin that they had found one; I understood him the other day. We couldn't find it at the time, either he or Mr. Millar.

Q. You didn't dig for it?—A. A little ways.

Q. You didn't dig far enough?—A. I suppose, if they found it, we didn't. I don't know the particulars about finding it.

Q. Then, apart from that conversation with Mr. Bell or Mr. Millar, that is the only conversation or request for explanation that was made on the work?—A. I don't recollect, don't recollect their being frequently asked questions about things that we couldn't understand.

Q. And it was not the course; it was not the practice?—A. No, I don't think so.

Q. In fact I have been instructed that they were told they were not wanted to say anything; do you remember that?—A. I think it was understood that we would have no discussions with them on the work.

Q. Nothing was said in their presence—no discussion in their presence?—A. No.

Q. On what principle did you select the gentlemen whom you were to examine?—A. I cannot say on any principle.

Q. You don't seem to have examined all the engineers?—A. No.

Q. Take Mr. Richan, for instance?—A. Mr. Richan was examined.

Q. Why did you select him for examination?—A. I don't recollect. I can't give you any reasons. I don't remember.

Q. Would the same thing apply to all the other gentlemen that you examined?—A. The same thing, as far as I recollect, applies to them all. I don't know that we had any system in examining them at all.

Q. Mr. Richan seems to have been the first one who was examined on the 22nd May?—A. Well, I couldn't say whether it was Mr. Richan or Mr. McHugh. It was one or the other.

Q. Mr. Richan's evidence comes first in the notes; I suppose he would be examined first?—A. I forget now, I don't recollect which was first.

Q. Were they present together?—A. I am not sure.

Q. That examination took place on the private car?—A. I think so.

Q. At Lost Lake Siding?—A. I think so.

Q. Then it was immediately before the examination that was suggested that Mr. Jones should act as scribe in taking down the depositions, was it?—A. I can't say it was immediately before, or it was arranged on the car, that if we took any evidence we should use him as stenographer.

Q. Do you know as a fact that Mr. Jones is not qualified to take evidence?—A. Well, he may not be a stenographer such as would be required in court.

Q. Is there any difference between taking evidence in court and taking evidence the way you were taking it?—A. Well, we could afford to take much more time over it.

Q. But did you?—A. Well, I don't know, I can't compare it.

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Q. Because as far as one can read from the fragments of notes that he has taken, the firing seems to have been pretty rapid?—A. Well, it may have been a little too rapid for him. I can't say.

Q. Apparently in each case, Mr. Schreiber seems to have taken the labouring oar in cross-examination of these gentlemen?—A. I think very likely he did.

Q. You know he did, don't you?—A. Yes, my recollection is he did more questioning than the others.

Q. And there does not seem to have been any principle about the subjects upon which the examination was to be had?—A. I don't know any principle at all in connection with it.

Q. Mr. Schreiber seems to have picked out some particular point or supposed point on the work, and to have devoted himself to a cross-examination on that particular point; wouldn't that be a fair thing to say?—A. I cannot say that; I can't say that I noticed any one particular thing.

Q. Take Mr. Richan, for instance; Mr. Richan was Division Engineer of Division 5, District 'F,' and he was examined solely about the cut at station 176?—A. Well, that was the first cut.

Q. If you look at his evidence you will find that that is so, with the exception of one question about the cut at 459 which you asked him; would you be kind enough to turn to his evidence on page 93 of the proceedings? You see that towards the middle of page 93 he mentions the cutting at station 178?—A. Yes.

Q. And then you asked him, at the foot of page 94, about the cut at 459 plus 461·77. Now, apparently those two cuts are neither of them mentioned by you in your list of the cuttings which led to your resignation?—A. They may not have been, because I didn't mention every cut. I didn't pretend to.

Q. But I would have thought that you would have mentioned cuts in regard to which you had specifically examined those gentlemen, if there was anything wrong with those cuts?—A. Well, I could have put in that cut, but I see I didn't do it.

Q. You had previously visited this cut, hadn't you?—A. Yes.

Q. With Woods?—A. Yes.

Q. And you had made no complaint about it?—A. I spoke to Mr. McHugh about it at the time, I only saw him just when we were leaving, and I think I spoke to Mr. Poulin afterwards about that same cut, that is after being over it with Woods.

Q. And what did you say?—A. I spoke to him about the——

Q. Assembled rock?—A. I don't know whether it was called assembled rock, but about the classification generally.

Q. Was it or was it not about assembled rock?—A. Well, I dare say assembled rock would be part of the classification.

Q. It would be the principal thing, wouldn't it?—A. I forget now. I can't remember what the principal part of it was.

Q. This particular cut at 178 was a half-mile cut, wasn't it?—A. A long cut.

Q. I have been trying to see, in reading over Mr. Richan's evidence, what it was in that evidence that caused you to lose confidence in him, and I can't see anything there; can you indicate what it is?—A. I don't know about in that evidence; I simply lost confidence from the classification and the state of the work generally.

Q. Let us look into that a little further in detail; You lost confidence——?—A. I didn't mention him particularly as having lost confidence in him, but I lost confidence in all those who——

Q. You did lose confidence in him?—A. That was only subsequently.

Q. I don't know about subsequently?—A. Well, I didn't mention any names in my letter of resignation.

Q. But you must have had him in your mind?—A. Oh, I had him in my mind along with the others.

Q. You did mention him in your statement of Feb. 23?—A. Yes. They were put in that evidence.

Q. You said in that statement that you had lost confidence in a portion of the engineering staff and that you based the statements contained in your resignation 'both on the facts admitted by the engineers on the ground, in May and June, 1909, in their sworn statements made in my presence, and also upon my personal examination of the ground'?—A. Yes.

Q. Now, I want to ask you with regard to Mr. Richan first of all. What fact admitted by him in his sworn statement was it that caused you to lose your confidence in him?—A. I don't know that there is any fact admitted in his sworn statement.

Q. Will you look at it please and see if there is anything that caused you to lose confidence in him? (Handing copy of Mr. Richan's deposition to witness)—A. (After reading depositions) I don't see anything in that particularly, in that affidavit.

Q. I do not either, so we will take it, so far as Mr. Richan is concerned, that there is nothing in his sworn statements that caused you to lose confidence in him.—A. I don't see that there is in that sworn statement.

Q. Then it reduces itself, so far as he is concerned I suppose, to what you say here, that it is upon your personal examination on the ground?—A. Yes.

Q. Now he was division engineer of Division Number 5, which I understand includes about 45 miles of the district, is that right?—A. I think so. I don't know what the exact distance is. I think it is approximately that.

Q. And in that there are about 150 cuts?—A. I dare say.

Q. And I understood you to say to Mr. Smith this morning that up to the time that you went on this arbitration trip you had no ground for any uneasiness or want of confidence in the various engineers?—A. No. I had not seen enough of it.

Q. You have not, at any rate, in Mr. Richan up to that time?—A. No. I had some discussion with Mr. Poulin about that particular cut you referred to in which I guess Mr. Richan was interested.

Q. He was acting under the instructions of Mr. Poulin and in complete accord with Mr. Poulin, was he not, as far as you know?—A. As far as I know.

Q. On that whole division the principal trouble was in regard to assembled rock, was it not?—A. Assembled rock and loose rock.

Q. Well now, Mr. Lumsden, largely sticking to Mr. Richan and taking up the sequence of ideas as well as we can, would you tell me if you please what you mean by assembled rock, because I have been listening for a number of days and I am free to confess I don't understand what you mean by it?—A. I know what I meant by it.

Q. What do you mean by it?—A. I mean a mass of rock over the size of any gravel and cemented together in such a way as to necessitate blasting.

Q. Well, then, do I understand you to predicate that there has to be a particular percentage of boulders in that rock?—A. I mean to say it must be——

Q. In a mass?—A. It must be practically all boulders.

Q. It must be practically all boulders?—A. All boulders, yes, cemented together.

Q. Have you any percentage in your mind?—A. Well, I don't know what percentage of rock you could put in in that way; it would depend upon the size of the rock.

Q. When you say 'practically all boulders' that is a very loose expression. You know what the percentage of stone in rubble masonry is, don't you?—A. I could not say offhand.

Q. You remember some discussion about the percentage of solids and voids in a cone of piled cannon balls? Do you remember that discussion?—A. I remember some discussion about that, yes.

By Mr. Chrysler:

Q. There is another illustration with which you are perhaps more familiar. In

the manufacture of concrete, one fragment of broken stone is supposed to touch another fragment of broken stone, that is the usual specification?—A. Certain specifications do that, others don't.

Q. There is a familiar formula that will give an idea of the percentage of voids?—A. Oh, well, there are different voids—1, 3, and 5; 1, 3 and 4; 1, 3 and——

Q. 1, 2 and 5—A. 1, 2 and 5 I know.

Q. That is a common one. Does that give the percentage of void in between the spaces of the rock? The cement does not take any space?—A. Very little.

Q. The sand fills the rest?—A. Yes.

Q. And the proportion of sand is 5 out of 7, isn't it?—A. Not 5 out of 7.

Q. It is 2 out of—A. It is 2 out of 5.

Q. 2 out of 7, or is it?—A. It may be 1, 2, and 5; 1, 2 and 6; 1, 2 and 7.

Mr. CHRYSLER.—If you get the specification for concrete you will find it works out pretty nearly the answer you want, just about. I think 40 per cent probably would be rock and the rest space.

By Mr. Moss:

Q. I find at page 44 of the specifications: 'Body concrete for piers, abutments and large masses. The concrete will consist of one part Portland cement, three parts sand, six parts broken stone or screened gravel'—and so on. That would be apparently 6 of broken stone to 4 of sand and cement?—A. The cement takes up very little space.

Q. It goes into the void?—A. It goes into the void.

Q. I do not see how one part of cement can take up any less than one part of stone.

Mr. CLARK.—At page 93 of the Proceedings of this Committee, Mr. Richan is described as Division Engineer, Division 5, District 5.

Mr. MOSS.—That is a mis-print in the evidence.

The WITNESS.—There are a number of mis-prints in the evidence, it ought to be District F.

By Mr. Moss:

Q. Now, according to what I have read, 6 per cent broken stone and 4 per cent sand and cement would be the specification for concrete?—A. That may be.

Q. That would be 60 per cent of stone in that?—A. There would be somewhere about 60 per cent.

Q. What was the percentage in assembled rock, was it more or less than that?—A. I don't know that it was more or less. The assembled rock consisted of different sizes of stone which might not be cemented where the stones are the same size.

Q. What is your criterion? Have you any criterion in your mind?—A. I made no percentage of rock.

Q. How was the engineer to tell whether it was assembled rock or whether it was not?—A. If the rocks were all touching each other.

Q. Where do they get that from?—A. Simply from the drawing.

Q. From the drawing?—A. Yes.

Q. What had the contact to be or had there to be a contact?—A. Just touching each other.

Q. Any rock touching any other rock?—A. All the rocks would have to touch, or one would have to touch the other. Just as if you take and pile them into a box they would have to touch one another.

Q. Well, you don't say anything about that in any of your various interpretations.—A. I don't think I said so. It shows there touching each other.

Q. Well, now, I want to know if it was necessary for any one boulder in a mass to have contact with another boulder at more than one point.—A. A boulder might only touch one boulder which touched another one which touched that one in some other point. One boulder might only touch the other in one point.

Q. It has got to be in contact with one boulder. Has any one boulder got to be in contact with more than one other boulder?—A. I think it would have to be.

Q. Well, not necessarily.—A. I don't know how you are going to get them in unless you bridge them or build them in.

Q. We do not go up to the railway to see over again the works of nature. We were speaking of this stuff as we find it on the spot. You have this material there and the question I am trying to find out is what was in your mind as to the essential criterion of assembled rock?—A. My idea was——

Q. I have got as far as this, that the boulders must be touching each other?—A. Yes.

Q. You said that any one boulder should have contact with more than one?—A. I don't see how you would make it a mass of rock without they were touching more than one boulder.

Q. Well, if they are cemented together they will be massed anyway?—A. If it was cemented gravel it would not be rock.

Q. Well, let us start it the other way then. A mass in the first place of material cemented together?—A. It was a mass of rock.

Q. Just wait a little.—A. I say it is a mass of rock.

Q. I am not trying to catch you in any trap. You will follow me as we go. Assembled rock to start with—there may be some other qualities besides—is a mass of material cemented together is it not?—A. That is what it is.

Q. It is a mass of material cemented together?—A. Yes.

Q. It is composed of rock or boulders and partly of the cementing material?—A. Yes.

Q. And those two kinds of materials are bound to be found there in greater or less proportions?—A. Yes.

Q. Have you made any study at all of the geological side of this question?—A. I can't say that I have.

Q. Do you know anything about the formation?—A. I know a little, yes.

Q. It is a fact, is it not, that this is a glacial formation?—A. Proportions of it are, yes.

Q. This assembled rock is glacial, is it not?—A. Yes.

Q. And, as I understand, it was formed years ago by the attribution of the masses of ice which were spread over the continent during the glacial period, wearing on the solid rock structure of that part of the country?—A. That is what——

Q. That is what it is supposed to be?—A. That is what it is supposed to be.

Q. And this material being worn off in this way, is carried by the ice and distributed in various regions in various ways?—A. It is deposited in water, a good deal of it.

Q. A good deal of it is deposited in water?—A. It must have been.

Q. And a great deal of it was deposited in valleys, wasn't it?—A. In valleys, yes.

Q. And the fine material, sand or clay, is recognized by geologists to be part of the same material as the larger boulders ground off, is it not?—A. I am not prepared to say that.

Q. That is what I find stated by Professor Geikie in his book?—A. It may be so.

Q. He is a recognized authority is he not?—A. He is a recognized authority, yes.

Q. And this material ground off in this way is carried down and is deposited in heaps or piles or spread over the rocks?—A. Yes.

Q. And it is cemented together by the action either of water, chemical action, or by mechanical pressure, or by both?—A. I can't say how it has been cemented.

Q. But the distribution of boulders through the finer material varies very much?—A. Sometimes there are no boulders, sometimes there are a few, sometimes there are a great many.

Q. I mean it varies in a short distance?—A. Yes.

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Q. The distribution is very irregular?—A. Yes.

Q. And there is no means, of course, when you are opening a cut, of ascertaining before you blast as to the exact position of these boulders?—A. No.

Q. You have no X rays or anything of that sort by which you can see whether they are in actual contact or not?—A. No.

Q. Now, do you mean to tell me you were laying it down for your engineers as a practical working test of assembled rock, that all the boulders comprised in that mass must be actually in contact with each other?—A. That was my idea. That they should be a mass of boulders in contact with each other.

Q. How were they to find out whether they were in contact?—A. When they get working on the faces of a cut they can see what they are to a great extent.

Q. They can see just where they are working, but they cannot see the rest?—A. They cannot see inside.

Q. And you have told us the distribution is very irregular?—A. The distribution is irregular.

Q. Well, how is an engineer, where you have a contractor boring into the faces of a cutting, into this stuff, and he sees only a small part of the face?—A. He sees the faces.

Q. He sees the faces, yes, and he is going in 20 or 30 feet perhaps for a blast?—A. He may or may not go as far.

Q. He will go in 10 to 20 or 30 feet?—A. Yes.

Q. He cannot tell after that blast has gone off whether the stones were touching or not, can he?—A. No. Not the ones that have been blown out, but he can tell what was in the face before the blast and he can tell what is facing him after the blast.

Q. It is not the face he has to classify but what has been taken out?—A. I know it is.

Q. Can you tell us how he is going to tell?—A. By what he sees in the faces of the cutting and what is left on the sides.

Q. And your statement is that you intended that diagram and your letter of interpretation to mean that the boulders comprising this cemented material, which you call assembled rock, must be in contact with each other, and each boulder in contact with more than one other boulder.—A. Just as it is shown in the sketch, that was my intention.

Q. Why did you not say so?—A. I think it is perfectly plain. That drawing is perfectly plain. The only question is the sizes. There is no scale given and there is no mention of sizes.

Q. You do not find those boulders in rock formation distributed like that, do you?—A. Possibly you won't find them exactly in the position shown in that, but you may find places where the boulders are as close together as that.

Q. You won't find them except in what we may call a freak formation, you would not find them in a regular formation? This stuff that you are speaking of, you never find the boulders in that country packed together?—A. You do find them occasionally packed together.

Q. Oh, occasionally, but not to any extent?—A. No, you do not find them.

Q. The boulders in that drawing look as if they had been packed by hand, very nearly as close as rubble or closer?—A. They are pretty close.

Q. Very much closer than you would find them on the work?—A. Oh well, I don't know. I think probably it may be a little closer than you would find them as a rule.

Q. A good deal closer?—A. I don't know. It depends on the shape of the stones.

Q. Would you find them packed in like a box of bricks, as if they had been made to fit into each other?—A. They are probably a little closer than you would naturally expect to find them.

Q. Do you mean the engineers were to wait until they found a formation like that where the stones were packed in that way before they classified them?—A. If they were a mass of boulders, even if not packed as close as that, I think they would be considered as assembled rock.

Q. But when you say they must be touching?—A. Exactly.

Q. How are the engineers to know?—A. Well, they can tell by what the pieces were before and after the blasting.

Q. How were they to know from your drawing that you regarded the contact as essential? You didn't regard this extremely close packing as essential?—A. I show there the contacts of stone.

Q. And you show the extremely close packing?—A. In that case extremely close packing.

Q. I may tell you that this being scaled off shows 80 per cent of solid rock and 20 per cent of voids or cementing material. Do you know that that is so or not?—A. I don't know.

Q. Did you ever hear of 80 per cent spoken of in that connection?—A. I don't recollect.

Q. Do you remember Mr. Schreiber speaking of it?—A. I don't recollect the 80 per cent.

Q. Did Mr. Schreiber say the 80 per cent?—A. Not that I recollect.

Q. Mr. Schreiber prepared that drawing?—A. He prepared that sketch.

Q. And you say Mr. Schreiber didn't speak of it?—A. I never to my knowledge heard him say 80 per cent.

Q. You never did?—A. No.

Q. Well, if that, as a matter of fact, is 80 per cent solid rock and 20 per cent voids, you would not regard that as an essential feature?—A. No. Not the 80 per cent. My own idea would be that it would be nearer 70 per cent.

Q. I think you are mistaken about that, that it ought to be 70 per cent?—A. I mean to say that the assembled boulders of possibly uniform size would run between 65 and 70 per cent. That is if they were of uniform sizes.

Q. Do you think that contact of the boulders is a reasonable criterion?—A. Which?

Q. Do you think that contact of the boulders with each other is a reasonable criterion to adopt?—A. I think it is.

Q. Would it not be possible to have boulders which were not actually in contact and have a larger solid proportion than where they were in contact?—A. I don't know.

Q. Would it be possible?—A. Not if the boulders were approximately the same size, I don't think it would be.

Q. If they were the same size and all round, but if you have boulders of varying shapes it would be quite possible for them to be arranged in that space?—A. I think you would have to make a better arrangement than that to get them in.

Q. Well, I think it may be done. I am asking you if you do not think it would be possible.—A. It may be possible, but I don't know how you would get them in.

Q. Where did you get this idea that the boulders must be in contact to constitute assembled rock? Where did that idea originate with Mr. Schreiber?—A. I don't know that it originated with Mr. Schreiber.

Q. Did you discuss this drawing with him before it was made?—A. Not before it was made. I discussed it at the time it was made.

Q. You mean after it was made?—A. After it was made.

Q. And what was the discussion about?—A. Nothing more than it must be a mass of boulders.

Q. Did he say anything about contact?—A. I don't remember anything that was said about contact or sizes.

Q. Nothing was said about contact or sizes?—A. I don't remember anything about contact or natural sizes.

Q. Then was the idea that the boulders must be a foot or more your own idea?—A. That is what I wanted to put, what I had put in. That was my own idea.

Q. Your idea imposed on Mr. Schreiber's drawing, was it?—A. It was not im-

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posed on Mr. Schreiber's drawing. That was my idea that the pieces should be a foot or over.

Q. Did you have that idea before Mr. Schreiber made his drawing or did it come to you afterwards?—A. That was after I had seen the drawing.

Q. And it was your idea of what the drawing meant, was it?—A. Not what that drawing meant, but my idea was to put in a foot—that the detached pieces should be a foot or over.

Q. Let us get back if we can to the way the thing was shaping itself in your mind at that time. As I recollect, you told us that you had not thought that any of this material which consisted of boulders cemented together should be classified as solid rock unless the boulders were over a yard?—A. That was——

Q. That was your original idea, I think?—A. Yes.

Q. You found that your engineers had been classifying on a different basis?—A. Yes.

Q. And you had your meeting with them and your discussion with them?—A. Yes.

Q. And the matter was taken up and all these opinions obtained?—A. Yes.

Q. And in consequence of that you modified your interpretation?—A. Yes.

Q. And you gave forth this blue print with your written instructions?—A. Yes.

Q. Now, then, that blue print, the sketch which was embodied in that blue print, was prepared by Mr. Schreiber?—A. Yes.

Q. I would like to go back to that point and ask you just what took place between Mr. Schreiber and you when that was prepared, or how it came to be prepared by him?—A. At the suggestion of the commissioners I consulted with Mr. Schreiber.

Q. What did you say to him?—A. I cannot remember what I said to him.

Q. Give us the gist of it?—A. I cannot remember any particulars of the conversation at all.

Q. Did you ask him to prepare a drawing, or did he volunteer to prepare a drawing?—A. I saw him on one or two occasions, and after the first occasion—on one occasion he said he prepared a sketch to illustrate what he meant.

Q. Then he invented the phase 'assembled rock.' Where did that come from?—A. I rather think I must have invented it myself, but I am not positive.

Q. I would not proclaim myself parent of it unless I was sure, because it has been a very unruly child?—A. I know that. I am not positive how the name originated.

Q. Then a drawing was prepared by Mr. Schreiber?—A. Yes.

Q. Did he tell you at all what it meant apart from its appearance?—A. I don't recollect anything, any of the details of it.

Q. Then who composed the legend which accompanies that drawing, 'rock in masses of over one cubic yard, assembled rock, which in the judgment of the engineer, can be best removed by blasting?—A. I think these are Mr. Schreiber's words along with the sketch. There are many things considered in that, but I don't know if that was one.

Q. Who composed these notes at the bottom, No. 1, 2, 3, 4, 5, and 6?—A. Allow me to look at that for a moment, (Mr. Moss hands drawing to the witness.) Mr. Schreiber, I think.

Q. You think it was all Mr. Schreiber's. Then this interpretation was really Mr. Schreiber's interpretation and not yours?—A. He made that out and I think there are one or two other words in that changed by me, but I am not positive what the words are.

Q. Not to any account?—A. In that one you have there now, I think there is some word changed in the second or third—I think there is some word changed; 'shale rock' was not in Mr. Schreiber's. The 'shale rock' I think was put in by me.

Q. Why did you put shale rock in? Is not that in ledges?—A. I simply put it in to make it complete.

Q. I don't know—perhaps it is presumptuous of me to volunteer a criticism, but I would have supposed that neither conglomerate nor shale added anything to this. Of course, they are both rock in ledges, are they not?—A. There is some shale rock that you can plough, at least some stuff that you may call shale rock, that you can plough.

Q. What would you classify that as?—A. It might be ploughed, but it would not be rock if it did not require blasting to remove it.

Q. It would be rock just the same; you might not classify it as rock?—A. The question is whether it would be rock when it is so soft you could plough it?

Q. How do you mean, under the contract, under the specifications?—A. Yes.

Q. Of course, it would be geologically rock?—A. Yes.

Q. It might be difficult to decide whether it would be classified as solid rock, or loose rock, or as common excavation, might it not?—A. That is why I put it in there so that shale would be taken as rock.

Q. So rock runs through different degrees of hardness?—A. Yes.

Q. As a matter of fact, these materials, you do not find them divided up with strictly defined lines, in nature, do you? They run into each other?—A. They very seldom run into each other, that is shale rock into gneiss rock.

Q. I don't mean that, but you get materials where the question of the degree of hardness varies, and it is very difficult to place them exactly?—A. It might be; there are cases where the degree of hardness of rock varies.

Q. In such a case it might be difficult to say whether boulders were cemented together, or whether they were simply boulders in gravel?—A. Yes.

Q. I suppose that boulders that have been under any pressure at all are held together by the soil, are they not?—A. They may be held by the soil, but they need not necessarily be cemented together.

Q. The question is whether they can be removed by blasting, whether you regard them as such?—A. No.

By Mr. Clarke:

Q. How would you classify them?—A. If they did not require blasting, if they were small boulders they would be loose rock, and if they were larger than a yard, that would be solid rock.

By Mr. Moss:

Q. Take a case of boulders larger than a yard, but small enough to be considered boulders, becoming a serious case. First of all you find them in a bed of loose sand, as you might on a beach or something of that kind?—A. Yes.

Q. Now, these would be classified by you, I suppose, as loose rock?—A. If they were over a foot.

Q. If they were over a foot?—A. Yes.

Q. Between a foot and a yard, they would be classified as loose rock?—A. Yes.

Q. Do you allow for the measurement only of the rock or of the sand you take out of the rock?—A. Only of the rock.

Q. You take out the rock and take out the sand as common excavation?—A. Yes.

By Mr. Clarke:

Q. How would they arrive at that. Do they measure them or estimate them?—A. They are supposed to measure them, but they estimate them as a rule.

By Mr. Moss:

Q. It is not practicable?—A. It is practicable, but it is hardly ever done.

Q. It is theoretically practicable to an engineer, but supposing men handling it, can they?—A. They can, but they have to have a man specially for the purpose.

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Q. It would take a long time to get at it mathematically?—A. The only way I have known them to measure it is to have a man put on purposely for that measuring.

Q. Even then it would take a long time?—A. They simply measure them. It would not be very accurate in the end.

Q. It is not done in this country?—A. Not as a rule.

Q. You would not find any fault with an engineer for not measuring each boulder under the circumstances?—A. I think he ought to measure enough to give him an idea of what mass they run into, not simply all the time by guessing at them.

Q. He should check up his estimates by taking measurements from time to time? —A. Measuring the stone that comes out of that portion as loose rock.

Q. But you would not expect them to measure every boulder in the whole cut?— A. Not if he kept doing that occasionally, so as to check up.

Q. We will go on from boulders resting in sand or surrounded by sand to the same kind of boulders embedded in the clay. Now, if those can be removed by pick or bar, would you regard those as loose rock?—A. Yes.

Q. And the clay you would regard as common excavation?—A. Yes.

Q. Unless the clay was so hard that it could not be ploughed?—A. Yes.

Q. In that case you would allow it as loose rock too?—A. Yes.

Q. Now then supposing that clay is a degree or two harder, so that the stones cannot be got out of that without blasting, then you would classify that how?—A. That would depend. If the stones were in a mass together all touching each other, and so hard that they required blasting, I would consider them as assembled rock.

Q. You mean the clay so hard?—A. I mean the clay so hard that the boulders were touching and the clay was so hard that it would necessitate them being blasted. It then becomes assembled rock.

Q. I cannot see the principle of boulders touching each other? Is that a logical or reasonable conclusion?—A. I think so. I don't see why you should not insist on having a large portion of the material rock or stone?

Q. That is a question of percentage. It is not a question of how it is laid, whether it is touching or not. I might be quite wrong, but it seems to me that is very arbitrary—A. If they are touching, you may get a smaller percentage of stone.

Q. Not necessarily. You take large stones which are almost touching, the percentage of solid would be very much larger than if you have the smaller stones. —A. It would depend on the shape.

Q. Why make it depend on the question of contact. Would not the percentage be a mere reasonable basis?—A. I don't know. It would be easier to tell the stones that were touching, than the percentage that were not touching.

Q. Not the percentage touching—the percentage of the stones that were taken out of the cutting?—A. Yes. It is easier to tell whether the stones are touching than it is to tell what percentage of stones there are in it.

Q. You have the face of a cutting open?—A. Yes.

Q. It is all comprised of a large proportion the lower portion is comprised of boulders and clay of such a hardness that it requires blasting to remove it?—A. Yes.

Q. Now, that runs in different arrangements. In some places the boulders are touching, and in some places they are not. In some places they are almost touching and in some places the boulders are comparatively few, as shown by the face. Now, you would know that that arrangement would vary as soon as you got back a few feet, would you not?—A. Very likely.

Q. How would you proceed to classify that?—A. By the different layers.

Q. If you put in your blast and blew out twenty feet, how could you tell?—A. You cannot tell what you blasted out unless you measure the rock that has come out of it.

Q. You could not tell whether the rocks had been touching or not, when it came out?—A. If they had been touching the probability is that if you pile them up they will touch again.

Q. I am not doing this as a kind of a gymnastic exercise, but I am trying to get at how you expect an engineer to go about his work under the specifications? I am not trying to lay any trap for you?—A. I cannot see the difference there is in stating whether the rock is touching or approximately touching throughout.

Q. Do you mean actually touching?—A. Actually touching.

Q. Actually touching?—A. Call it touching.

Q. You require actual contact?—A. Yes.

Q. I do not seem to make myself clear to you or else I am completely at sea about the thing. Would you measure that face before you put in that blast?—A. I would note what the fact was if the rock was all touching on the face- —

Q. It would not be all touching on the face. You would have part touching on the face and a part not touching?—A. You might have a seam two or three feet all touching, and another seam two or three feet where there was no rock at all.

Q. And another seam where it was partly touching?—A. And another seam where it was partly touching.

Q. And you may have some where there was none at all? It may be in broken layers?—A. As a rule it lays in layers.

Q. Isn't it of a pretty irregular order?—A. Sometimes.

Q. How would you do then?—A. I would just take the proportion as it was before the blast started, and see what the condition was after we had taken out more of them.

Q. If it was actually touching, you would allow that as solid rock?—A. If it was cemented together.

Q. What would you do with the rest?—A. If it was material that was so hard that it could not be ploughed, and with stones through it, that would be loose rock and other material would be common excavation.

Q. It would not matter whether there were stones in it or not, you would allow it as loose rock if it could not be ploughed?—A. I would allow it as loose rock if it could not be ploughed.

Q. In that case you allow the cementing material as well as the boulders in solid rock?—A. In assembled rock.

Q. In assembled rock?—A. Yes, if the boulders are touching, the other stuff goes in as rock.

Q. If the boulders are not touching, you put it all in as loose rock?—A. Put it in as loose rock.

By Mr. Clarke:

Q. Not the boulders?—A. Not if they are over a cubic yard. If they are under a cubic yard.

Q. If they are not touching, you would have to measure those and call the rest of it loose rock?—A. Yes.

By Mr. Moss:

Q. Then it comes down to this, if I understand, that when you sent this diagram out to your engineers, which you mentioned in Exhibit No. 21, on page 161, 'solid rock excavation will include all rock found in ledges or masses of more than one cubic foot, which in the judgment of the engineer may be best removed by blasting.' 'I am of the opinion that rock found in ledges in masses must (firstly) be rock and (secondly) it must be in ledges, conglomerate form (known as plum pudding stone) boulders, or ledge rock displaced, (in pieces, each exceeding one cubic yard in size), rock assembled, also shale rock, such as in the judgment of the engineer may be best removed by blasting. I attach a diagram in explanation of the above, which in my opinion, is all that is included under clause 34, solid rock.'—A. Yes.

Q. Then you accompanied that with this blue print which says, 'rock in masses

of over one cubic yard, assembled rock, which in the judgment of the engineer can be best removed by blasting'?—A. Yes.

Q. You show this drawing, with the rock, which as you say, must be all touching, and then you say in Nos. 5 and 6, 'to form a judgment as to whether or not it is best removed by blasting, the Chief Engineer must view the work in progress or leave it to be attended to by the engineer in charge, whose duty it is to frequently visit the work in its operation and be governed thereby accordingly?—A. Yes.

Q. Now then, you tell us that you expected the engineers to understand from that that unless in this cemented material the boulders were actually in contact, it was not to be classified as solid rock?—A. That was my idea.

Q. That is what you intended to convey to them?—A. Yes.

Q. And it is because there has been material classified or partly, because at any rate there has been material classified as solid rock, where the boulders were not actually in contact, that you are now finding fault with them and losing confidence in them?—A. Not only that.

Q. But that is one ground?—A. That is one reason.

Q. That is one reason.—A. That is one reason.

Q. Because they did not understand from this drawing that the contract of the boulders was, in your mind, an essential feature?—A. That it was to be a mass of boulders.

Q. Everything is a mass. It is not a mass of boulders?—A. It might be a mass of boulders without any material between them.

Q. No, it could not be a mass of boulders; it could not be a solid mass of boulders?—A. It would be a mass of boulders though.

Q. It would be a heap of boulders or a pile of boulders.

By Mr. Clarke:

Q. I suppose that would never be found?—A. Except in a stone heap.

Q. Where they would be put there artificially?—A. No doubt, occasionally.

By Mr. Moss:

Q. You might find it on a beach, I suppose?—A. You occasionally find them at the foundation of rock cliffs, where there is no other material with them.

Q. They are not massed together?—A. They are simply piled loose together.

Q. They are a heap of boulders, or a pile of boulders?—A. They are a pile of boulders.

Q. That does not comply at all with the idea of masses as used in the specification. The word 'mass' as used in the specifications implies some degree of cohesion, does it not?—A. It does not to me.

Q. Surely it does?—A. You may get a mass of detached rock which has no adhesion about it at all. It is not a mass of boulders, but it is a mass of ledge rock, which has been detached and rolled off the mountain, we will say.

Q. It is self-contained. It has cohesion in itself. It is a mass of boulders?—A. You can call them a pile of boulders if you like.

Q. Unless they are cemented together you would not speak of a number of boulders as being a mass of boulders within the meaning of this specification?—A. Possibly not; You might take exception to the word mass, with regard to stones alone.

Q. I don't want to get into too much refinement about this, but I take it that the word 'mass' used in this specification implies cohesion within the mass?—A. Within the mass, yes.

By Mr. Clarke:

Q. But it is not a cohesion of all parts of the mass?

Mr. CLARKE.—I think it is. Of course I have no doubt a mass of rock must be over a cubic yard; that means there must be cohesion within the whole of that mass.

The WITNESS.—Well, it must be one piece.

Q. It must be one piece?—A. Yes, exactly, one rock.

By Mr. Clarke:

Q. I understand him also to say that if there were a number of boulders in a heap together, that would be a mass.

By Mr. Moss:

Q. He says that would not be a mass, within the meaning of these specifications, that is right, is it?—A. That is if they are easier to get loose. I do not know that you could call that a mass in the meaning of the specifications; it might be doubtful.

Q. You certainly would not allow your engineers to return as a mass of assembled rock a heap of boulders thrown in in that way, where there was no cementing material?—A. No.

Q. There is no question about that?—A. No.

Q. Then it is not quite correct, where you have this mass of boulders cemented together in that way, it is not quite correct according to your view to speak of it as being a mass of rock. It is a mass of rock and cemented material. The constituent parts of the mass are the rock and the cemented material?—A. The rock is the principal part.

Q. That is the principal ingredient?—A. Yes.

Q. But the cemented material is another ingredient?—A. Another ingredient in the assembled rock.

Q. Then it comes down to this, that one of your grounds for losing confidence, for instance, in Mr. Richan, was that when you sent him this blue print with these instructions, was that he was not able to understand that you regarded the contact between the individual boulders in a mass, individual rocks in the mass, as an essential ingredient?—A. I could not agree with his classification the way he made it.

Q. Because he did not insist that the stones should always be touching?—A. It seemed to me that a lot of material that was gravel and sand—what appeared to me to be gravel and sand, was returned as assembled rock.

Q. It appeared to you in the sides of the cutting?—A. Yes.

Q. Did you see any place where there were boulders which had been returned as assembled rock, where in your judgment, they should not have been?—A. You are referring to Mr. Richan's portion now.

Q. Yes?—A. Individual points, I cannot remember the number of the stations, but I know there are some places.

Q. I can tell you where Mr. Richan was?—A. Wait, I can tell by looking up.

Q. Mr. Richan was at station 659 to 1931. That is what I have got?—A. Station 553 plus 80 to 556.

Q. That is not on his work?—A. Yes, it is. The first item on page 79.

Q. Is that in Richan's?—A. Yes, on page 79.

Q. Well, in your note of that it shows that you dug down six feet solid in centre of track; 3·8 feet good ballast, &c.?—A. Yes.

Q. I asked you whether there was any place where you had seen boulders on the face of the cut, the side of the cut, where it had been returned as assembled rock and where you thought it should not have been. Do I make myself clear?—A. No, I don't quite understand what you mean. Do you mean where I saw boulders on the side of the cut and where I did not consider it assembled rock? Is that what you mean?

Q. Yes.—A. I cannot say—I might just look and see if I can see another station.

Q. Was that so anywhere?—A. Oh, we would see a boulder or two.

Q. I beg your pardon?—A. I have no doubt we did find boulders.

Q. In most cases you would find some boulders?—A. We would find a boulder or two.

Q. Coming through the dressing?—A. No, but in digging into them.

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Q. Well, you would not expect to find very many boulders in a pit, 3 feet 8 inches deep, and a foot or two wide as you told us?—A. Well it would be about——

Q. If you found one or two boulders of a foot or more, you would be pretty nearly getting all that you were entitled to, would you not?—A. No, it would be taking out pretty nearly one-third of a yard.

Q. If you took off the dressing and you got a boulder or two, that would be about as much as you would expect to get?—A. That depends what you call the dressing.

Q. What do you call the dressing?—A. Well, the dressing might be, as it was called, dressed off, it might be for some purpose, or the dressing might have rolled down from above and covered over the original surface.

Q. That would depend upon how long the cut had been open?—A. Yes, and the material in which it was made.

Q. The dressing might have been thicker at the bottom?—A. It might be.

Q. That might be so frequently, might it not?—A. It was not very liable to be unless it had closed in on the cutting.

Q. Never mind looking for that if you don't recollect where the station was, I do not want to take up the time?—A. I was just looking over these notes. I have here 'station 1383, I saw no boulders in sight.'

Q. That would be on the face of the slope?—A. I assume so.

Q. That would mean because there were none in sight on this slope you would condemn the classification?—A. If there were none apparent on the edge of the embankment——

Q. If there were none apparent on the face of the slope as it appeared there?—A. Or on the toe of the embankment where the material went.

Q. Oh yes, the embankment in which it went?—A. Yes.

Q. But you can't tell where it went; how did you find out where the material went in the embankment?—A. I couldn't tell the exact spot in the embankment, but I could see the toe of the embankment, or you could see if there were boulders in it.

Q. Take this half mile cut, for instance, that you were speaking about?—A. I can give you the information about the half mile cut I find which I didn't think of before, talking of boulders, I think, I came across a note.

By Mr. Clarke:

Q. How do you do in constructing, do they have a track and put down rails on it?—A. In some cases they do, in this particular cut that Mr. Moss is referring to they had a track.

Q. How do they do, take the material back and deposit it?—A. They laid the track in the cut and ran the cars out on the rails, and then dumped the material over the sides—sometimes they use side dumpers, which throw the material over the sides, and sometimes they use end dumpers which throw it out at the end.

Q. Throw it on the embankment?—A. Yes, they generally construct a temporary trestle of round poles which they run their track on, and then they fill it up. I find that at the west end of that cut the boulders were piled up along the north side of the track; they were piled up 400 feet in length by 6 feet in depth.

By Mr. Chrysler:

Q. What is that cut? Is it the one called 178 in the evidence?—A. Yes, it is the first cut in that district there and it is half a mile long.

By Mr. Clarke:

Q. How deep would that be at the highest point?—A. My recollection would be that it would be 16 feet, probably 16 or 18 feet.

By Mr. Moss:

Q. What did you say about those boulders?—A. The boulders apparently were

piled up there, not put in the embankment but piled up, rolled over the side of the slope, 400 feet in length and 6 feet in depth.

Q. What is the significance of that?—A. The significance of that is that they were not put in the embankment, they were wasted.

Q. That they were wasted, then there was more than enough boulders to put in the embankment?—A. They were put there because it was the easiest way to get rid of them.

Q. You don't say that, do you?—A. I can't say, but it is a very common practice to haul boulders out of the cut and roll them over the end of it.

Q. You don't finish the embankment off, it is not good engineering to leave the boulders sticking out of the embankment, is it?—A. The boulders have generally rolled down, as a rule, to the outside of the embankment, especially if you are using side dumpers, cars that dump to the side.

Q. Were they using side dumpers here?—A. They were at this place at the time.

Q. Do you know that they were?—A. At the time I was there they were using side dumpers.

Q. They were, you know that?—A. Yes.

Q. You saw some boulders there?—A. I saw some boulders.

Q. Just give the original note?—A. 'Station 169, saw face of cut east end; Station 180 x 10, cut in sand, quicksand and few boulders, rock and loose rock,' that is just my note of it, the note I made not on the last trip but the trip before.

Q. Where is the note about rock and boulders?—A. That is in this trip too.

Q. But this is the trip before?—A. Yes.

Q. Did you say anything to the engineers about that?—A. I remember speaking to Mr. Poulin about this cut.

Q. You spoke to Mr. Poulin about that?—A. After the time I speak of.

Q. What did you say to him?—A. I don't remember, I spoke of classification.

Q. Did you say anything about dumping out, wasting the boulders?—A. I forget whether I mentioned the boulders or not.

By Mr. Clarke:

Q. What would be the significance of that? That they had enough material for the road without it?—A. I believe there may have been enough material without it, but at the time I refer to the cut was not completed at all, these boulders had been wasted, strung along at the end of it for 400 feet.

Q. Mr. Richan was the divisional engineer, was he not?—A. He was the divisional engineer.

Q. Who was the resident engineer?—A. Mr. McHugh was the resident engineer.

Q. Well then apparently you did not attach any significance to the fact that any boulders were wasted, you are not blaming the engineer for that?—A. No, except to give an idea——

Q. That would show there were a good many boulders in the cut?—A. That shows that, yes, but it shows that of the bigger boulders in the cut very few of those were solid rock.

Q. Not in the form they were, but they might have been cemented together when blasted out?—A. I suppose the amount there would represent about, possibly, 800 yards—no, not 800 yards, there would not be that much.

Q. What I am trying to get at, of course it is interesting to get all the information we can, but what I am trying to get at is the significance attached to that fact?—A. You are asking me about that particular place and the boulders I saw in it, and what I noted——

Q. Yes, that is right, but does it assist us in any way at arriving at whether the classification was correct or not?—A. No, I do not know it would do that.

Q. I wouldn't suppose so. Well, then, did you ever at any time before this investigation started, Mr. Lumsden, explain to anybody that the contact of the individual

boulders in assembled rock was an essential feature of your definition?—A. I don't recollect saying anything about the contact of the rock.

Q. What did you say?—A. It must be a mass of rock.

Q. Well, of course your definition was that——A. It must be as if the stone there had been thrown into the cutting and then cemented together by some material.

Q. But that is not the meaning—who did you say that to?—A. I am not clear as to whom I said it, I remember saying it to some engineer.

Q. Saying that it must be as if thrown into the cut?—A. It must be a mass of stone which could be called rock cemented together.

Q. Well, of course, if you had stone cemented together, a number of stones cemented together, none of them in contact, it would still be a mass of stone cemented together, wouldn't it?—A. A mass of stones as if thrown into the cut and then cemented.

Q. Well, that is the point, did you ever say anything about their being thrown into the cut and cemented together to anybody?—A. I remember saying to somebody, 'as if the cut were full of stones thrown in and cemented together.'

Q. Did you ever use that expression?—A. I am not prepared to say the very words in which I said it, but that is the meaning of it.

Q. What you say now is, as I understand it, that they must have been stone in such forms as if they were heaped together and then had cement poured between them?—A. Cement, yes.

Q. Of course that is not the way they are done in nature, the glaciers did not do it that way, did they?—A. Well, I don't know, you will find very course gravel there.

Q. Very course gravel, what?—A. In the stones.

Q. And cemented together?—A. They may or may not be cemented together.

Q. You will find course gravel in between the stones?—A. No, you will find stones in masses that look as if they might have been thrown together.

Q. Oh, you do?—A. Yes, and they will be filled with smaller stuff.

Q. And filled with smaller stones, do you find them cemented together?—A. You may.

Q. But are they necessarily?—A. I don't think as a rule they are cemented together.

Q. As a rule, when there is gravel they are not cemented together really?—A. I do not think they are, as a rule.

Q. And, as a matter of fact it would not be, I think you told us it would not be a usual thing to find at all in this country stones cemented together in as close contact as your drawing shows?—A. I don't think there is much of that cemented together.

Q. Then I was asking you about who you had said anything to about their being thrown together?—A. I am not prepared to say, I remember talking to some engineer, I can't say who it was—one or more of them.

Q. You never gave any systematic explanation of that?—A. No.

Q. Was that the meaning of that interpretation, or was the meaning of that drawing at all discussed in the arbitration?—A. I have no recollection of it.

Q. Do you know whether Mr. Schreiber held the same views as to the meaning of that drawing; have you discussed it with him?—A. He made the drawing.

Q. About the contact of the stones, did he entertain the same views as you have expressed?—A. I don't remember anything about the stones, I don't remember discussing the contact of the stones with him.

Q. You seem to have treasured that up as a secret in your own bosom?—A. I took it from the drawing.

Q. You took it as the literal representation in the drawing, that the stones were touching each other; might not that be taking the drawing too literally?—A. I do not know that it is, I do not mean to say as they are there, close together.

Q. If you insist upon contact in every case why shouldn't you insist on having the stones as closely as they are there?—A. Not necessarily.

By Mr. Clarke:

Q. If there were two or three or four boulders six inches apart you would not reduce the classification on that account?—A. If there were only three or four small boulders there would not be a yard in it.

Q. Supposing, I mean, there was a mass of boulders cemented together, but in some instances they were not in strict contact?—A. You might not be able to see every one of them in contact but if they were generally in contact.

Q. That is what I understand you to mean; what you mean is a mass of stone?—A. A mass of stone.

Q. Composed principally of stone?—A. Principally of stone.

Q. But you would not insist in all cases they should be in contact?—A. You could not see, there might be small stones between two or three big ones which would not actually touch.

By Mr. Moss:

Q. As I understand it you do not intend that it should actually be every individual stone in contact, but practically you mean that every individual stone should be in contact and that you would throw it out of the assembled rock class if they were merely close together?—A. I mean to say that if there were a large proportion of sand, clay, or other material between the stone——

Q. But what proportion?—A. I say if there were a large proportion——

Q. You never fixed in your own mind any proportion?—A. I never fixed any percentage.

Q. And did Mr. Schreiber?—A. Not that I know of.

Q. Did you ever have any discussion with Mr. Doucet about the proportion?—A. I remember, if I recollect properly, Mr. Doucet asking me something about 50 per cent.

Q. Yes?—A. That was at the time of the arbitration.

Q. Did he ask you? Didn't you ask him?—A. No, my recollection is that Mr. Doucet spoke to me, whether there hadn't been some agreement about 50 per cent.

Q. What did you say?—A. That I had never heard of it.

Q. What Mr. Doucet tells me, Mr. Lumsden, is that you called him in June, 1908, into your office, or that he was in your office, and that you asked him, or you told him you would like to know what percentage of solid rock and of cemented material was being classified as assembled rock, that you asked him whether it was 50 per cent and he said yes, and in some cases more.—A. I don't recollect that, I have no recollection of it.

Q. That might have taken place but you don't recollect?—A. What I recollect was as to that Mr. Doucet asking me some day when we were out on the arbitration on District B.

Q. That would be last summer?—A. Yes—saying something as to understanding about their being 50 per cent of solid rock, and I understood that the understanding was with the Grand Trunk engineers or something of that kind.

Q. Did you agree to 50 per cent as being the proper proportion?—A. I don't recollect what I said to him, I don't recollect 50 per cent being mentioned.

Q. I want to get it farther than that. You never had in your mind any percentage?—A. I never made a percentage.

Q. And you tell us that there ought to be, that it is a question of percentage, that you thought the absolute contact is not practical in all cases, and that it is a question of being close together and a question of percentage, but you have never determined on a percentage, is that a fair way of putting it?—A. I never recollect hearing of any percentage.

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Q. Am I putting that fairly to you—the stenographer will read the question to you. (Question read) ?—A. I think so, my recollection is, well I can't say it is a question of percentage, but it really amounts to that.

Q. It amounts to a percentage?—A. It would amount to that.

Q. Now, talking for a few minutes on this assembled rock, it is a fact, isn't it, that assembled rock is more difficult to move than ledge rock, as a rule?—A. Oh that depends.

Q. Well, in blasting, isn't it the most important thing, perhaps to have an evenness of resistance, they want to have a constant material?—A. I think both drilling and blasting at times may be harder in assembled rock than it would be in solid rock, at times it would.

Q. And it is more difficult isn't it, more expensive, isn't it more difficult to gauge your charge?—A. That may be.

Q. Well I am instructed that it is, if you don't feel inclined to express any opinion on it—— ?—A. I am not.

Q. Have you had any practical experience in it?—A. In what is called assembled rock? No.

Q. You never had any experience with it?—A. I never heard of assembled rock before.

Q. It is not found in that formation in quantities, is it, you do not meet it in this country?—A. You meet clay and boulders in a great many places.

Q. But not in this cemented form?—A. Not what I call cemented.

Q. You do not meet the material that you had on this road, you haven't met that in quantities?—A. I have met similar to what we have met on this road.

Q. In large quantities?—A. In considerable quantities.

Q. But not in anything like as great quantities?—A. Not as much of it, because there is a great deal more on this road.

Q. Where did you meet it?—A. Down in Maine.

Q. You met pockets of it down there?—A. What I am talking of is a good many years ago.

Q. You don't remember the specifications you had there then?—A. I know one thing, there was no assembled rock. I don't remember whether there was cemented material specified there.

Q. You don't remember how you returned this stuff?—A. I don't remember.

Q. That is the only experience you have had of it?—A. I have seen lots of it in the mountains.

Q. But under that classification?—A. Of assembled rock?

Q. Yes?—A. I never heard of assembled rock before.

Q. Are all these boulders cemented together?—A. I have heard of lots of boulders in clay.

Q. But cemented together so as to require blasting?—A. Of course what some people would say would require blasting others would take out without blasting without any great difficulty?

Q. Of course you are the man who put out this interpretation, and I am speaking now of material which we are led to suppose, and which I understand you agree has been found on this road, consisting of boulders cemented together?—A. Yes.

Q. In such a way as to require blasting?—A. Yes.

Q. What I am asking you is if material of that kind has been met with in large quantities, unquestionably, on this road?—A. Yes.

Q. I am asking you whether you have met it in that form elsewhere?—A. Yes.

Q. And you told us you met with it in the State of Maine?—A. Yes.

Q. In large quantities?—A. Considerable quantities, and in the mountains on the Crowsnest Pass.

Q. In the construction of the Crowsnest Pass?—A. Yes.

Q. You didn't do any construction on the Crowsnest Pass, did you?—A. I was on the construction there.

Q. That was just at the beginning of the construction?—A. I was on it pretty nearly a year I think.

Q. You were?—A. Yes—I wasn't on it at the end at all, I wasn't on it until it was finished.

Q. And there was no question arose there apparently with regard to that material?—A. Not that I remember.

Q. You don't remember how it was classified?—A. No, I don't remember what the specification was there.

By Mr. Chrysler:

Q. I think it was just rock and earth?—A. Loose rock and earth, I think.

Q. Loose rock and earth?—A. Yes, I think so.

Q. There was a material there they called gumbo, and another sticky stuff which was cemented until it got wet, they gave it a different name there in the Crowsnest.

Mr. CLARKE.—Was it hardpan?

Mr. CHRYSLER.—No, it was a plastic material, it was very difficult to take it out, they couldn't dig or blast it.

A. Like what it was at Lethbridge and St. Mary's Bridge, when you looked at it and took photographs of it it looked exactly like solid rock, and pieces came out of it with a perfectly straight edge, nothing but clay, and when it got wet it was soft, and the only way they could get it out of the ditches was to stand men one after the other with shovels to work the stuff down the ditches.

By Mr. Moss:

Q. As a matter of fact your experience has been more in the location and survey branch of railway construction than in the actual construction, hasn't it?—A. I don't know, I have had a great deal of construction.

Q. You have had a great deal of construction?—A. I actually have had a great deal of construction, and I can tell you about it if you want me to do so.

Q. I should be very glad if you will?—A. I looked over the construction from Toronto to Perth, from Smith's Falls to Vaudreuil, from Lennoxville to Farnham, that portion from six miles from Farnham to Lennoxville, and that portion in the State of Maine from Holeb to Mattawankeag.

Q. That was in what capacity?—A. Of that portion there, the Ontario and Quebec, I was chief engineer, and of the portion in New Brunswick and the eastern part of Canada I was managing construction chief engineer.

Q. When were these roads built?—A. The Ontario and Quebec, in '82, '83, and '84, I think, though really I am afraid I will be out on the dates, somewhere about the 80's, between '80 and '85 and '86, and in Maine in 1887 and 1888; I am talking from memory and may be out a year or so.

Q. Well then, since that have you had any considerable construction work as distinguished from survey work?—A. Yes. From Rigaud to Alfred on this line from here to Montreal, and I looked after the construction of branch lines in Manitoba.

Q. But always with the C.P.R.?—A. They were all for the C.P.R. I supervised the construction of the lines from Regina to Prince Albert, from Calgary to Edmonton and from Calgary to Macleod, and I was on the construction of the Crowsnest for about in the neighbourhood of a year after construction started, I am not positive as to the exact time.

Q. Was that on the C.P.R.?—A. Oh, all on the C.P.R.

Q. So that your construction experience has been practically altogether on the C.P.R.?—A. Yes.

Q. Who were the chief engineers of the C.P.R. at that time?—A. Mr. Peterson was with them part of the time.

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Q. And the rest of the time who was the chief engineer?—A. The rest? I do not recollect who was chief at the time.

Q. Was it Mr. Tye?—A. No, I don't think I was under Mr. Tye; I never was on the Crowsnest, I was on the line in from Robson.

Q. Was it Mr. Kelly?—A. Mr. Kelly might have been, I wouldn't like to say who it was without looking up my diary.

Q. As to the difficulty of removing that assembled rock, Mr. Lumsden, you said sometimes it might be more difficult, isn't it as a rule more difficult? Isn't it something one would not like to tackle as well as ledge rock?—A. I wouldn't say that, I can't.

Q. You would not be prepared to express an opinion one way or the other about it?—A. No, not as to the cost of it.

Q. I suppose it is not unfair to say that all classification of material in these contracts is an artificial attempt to get a scale by which you can approximate the price to the cost of the work?—A. I won't say that.

Q. That is the basis of all classification; the idea of all classification is to make a rough division into three classes so that as nearly as possible the contractor will be paid what his work is worth with a fair margin of profit.—A. I can't agree with you there entirely.

Q. I was reading the report of the proceedings of the Engineers' Society, I haven't it here with me, the American Society of Engineers, and it seemed to be laid down there by some of their eminent engineers that the principle of all classification in drawing up specifications was to come as nearly as possible to making the division on which the contractor would be paid the cost, plus a fair profit.—A. The cost plus a fair profit would be the better contract.

Q. Well, I don't mean that, the better contract for whom?—A. For all around.

Q. That is the kind of contract that has been adopted in some cases in recent years, hasn't it?—A. I believe so, I have heard so, but I haven't had any experience of it.

Q. That would be an ideal contract to build your railway at cost plus 10 per cent, we would say?—A. Yes, at cost plus some per cent.

Q. But in that case you are putting yourself absolutely in the hands of the contractor, are you not?—A. Not if you have supervision over it and keep track of all the cost, not if you have a man doing that.

Q. I see. Well, that is all right where you adopt that method of procedure, but where you have classification the object of classification is, isn't it, the idea in framing a classification is to come as nearly as possible to paying a fair price for the different classes of material?—A. That will be the assumption.

Q. That is the effort, we may not succeed, but that is the effort?—A. Yes, that is what I presume will be the effort.

Q. The idea of a specification will be to have one which will provide for everything and getting a price which will be the cost of the work properly done plus a fair profit?—A. Yes.

Q. And practically you have to go at it, bye and large, and you make your classification as well as you can with that ideal in view; I mean you frame your classification as well as you can?—A. Yes.

Q. Of course once you have your specification framed it is not the engineer's business to consider the cost of the work?—A. No.

Q. Except in the case—I suppose it would be fair to say—in case of doubt that would be an element in which he would be justified in taking into account, if his mind wasn't clear, or if it was on the borderland, the engineer would be justified, would he not, in saying, "Well, it is very difficult to determine here, now this work has been cheaply done, I will put this in the lower scale," or if it is an expensive work, "I will put it in the higher scale."—A. Well, I don't quite understand that.

Q. Well there are cases, aren't there, where you come on the borderland, where

it is a matter of doubt?—A. There are cases in which it is doubtful in which class it should be.

Q. Wouldn't it be fair now in a case of that kind for him to be guided by the cost of construction, the cost of the work?—A. I think so if it is actually a case of being very questionable or very close.

Q. Of course it is not a principle that should be adopted, not as a general thing, because it would be a dangerous thing to do?—A. That is exactly why I don't like to answer the question that way, because it might be a very dangerous thing to give him the right at any time to change it.

Q. I would not suggest that, but where you come to a case where it was on the borderland and in doubt, it would be a fair thing for the engineer to resolve the doubt according to the cost of the work?—A. Yes.

By Mr. Chrysler:

Q. Somebody has said that the doubt should be resolved in favour of the contractor?—A. Yes.

Q. I mean during the course of this inquiry, that if a doubt arises, or if there is a doubt as to the meaning of the specification you would give the benefit to the contractor?—A. I think I would give the contractor the benefit of the doubt.

Q. I think you said so?—A. I think I did.

Committee rose at 6 p.m.

April 12, 1910.

The Committee resumed at 8.15 p.m.

The examination of Mr. Hugh D. Lumsden was continued.

By Mr. Moss:

Q. Mr. Lumsden, diverting for a time, would you look up your notes in Section 'B' on station 6034, to 6040 at La Tuque?—A. I have got 6030 to 6040.

Q. Well, have a look at that. Just read us your notes. This is on the arbitration, is it?—A. 6030 to 6040. The return I got for that was—rock, 101,749.

Q. Solid rock?—A. Solid. Loose rock, 16,113; common excavation, 73,153.

Q. Is that one of those of which you gave particulars here?—A. No, I am pretty sure it is not.

Q. Is it not one of those objected to by the railway?—A. I am not sure whether it is or not.

Q. Just give us your note about that?—A. 6030 to 6040, solid rock, 101,749; loose rock, 16,113; common excavation, 73,153.

Q. That is a very large cut?—A. It is a very big cut. About station 6037, 12 feet ledge each side. 6036, ledge—it looks to me 'about grade,' but I am not positive of it; then I have got, 'impossible to classify; should have cross-section showing it before doing anything. It is not finally measured.' That is the note I have got of that.

Q. That is one of the cuts that you did not——A. That was one of the cuts I did nothing with.

Q. Have you seen Mr. Schreiber's notes on that cut?—A. I don't know that I have.

Q. You don't remember what he said about it?—A. No, I don't remember what he said about it. That is the note I have got of it.

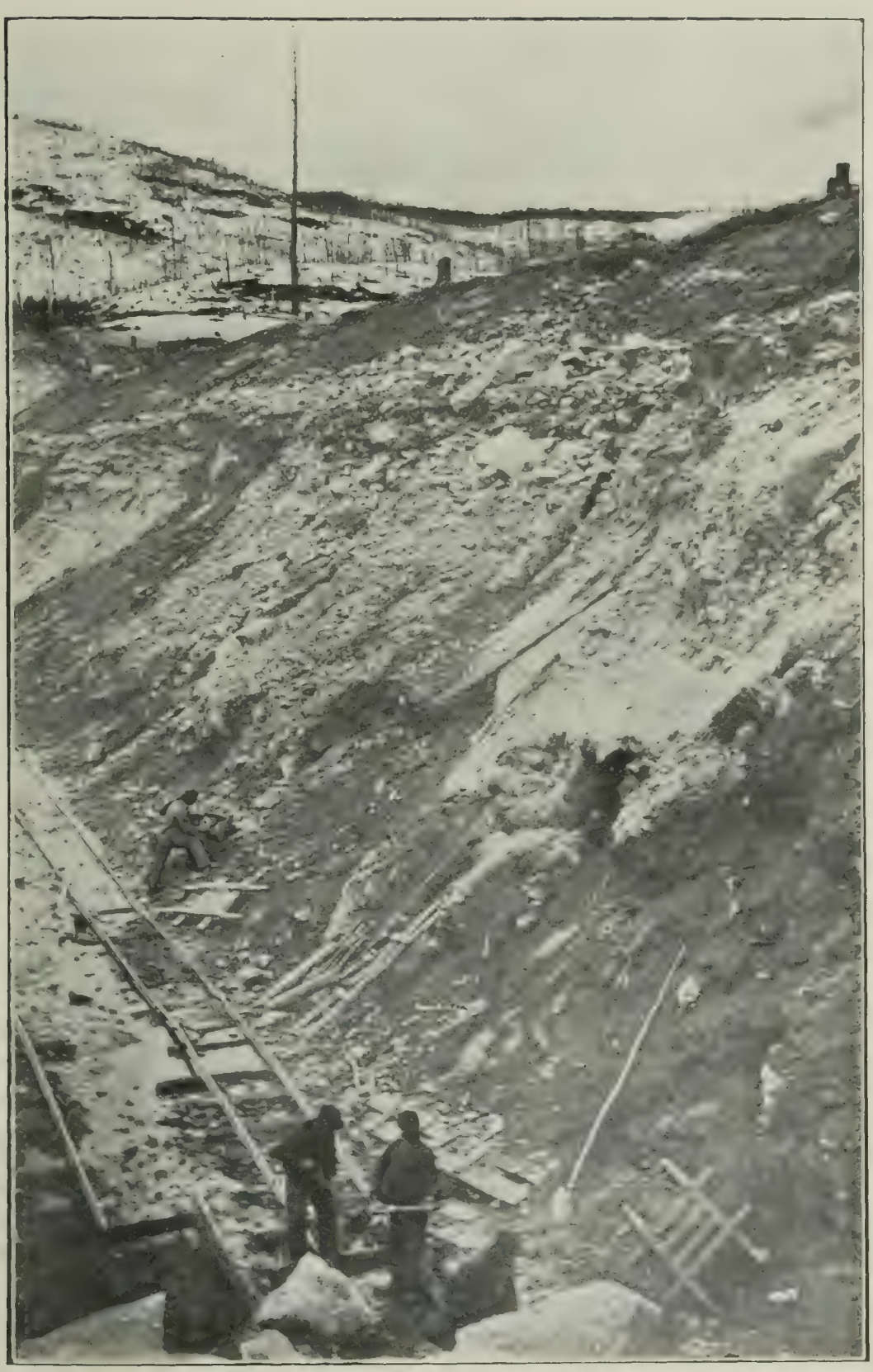
Q. Now, this is said to be a photograph of that, at station 6034 to 6040 at La Tuque, after the blasting has taken place; do you recognize that?—A. No, I wouldn't recognize it.



Station 6034 6040.—Surface of D. R. McDonald's cut at LaTuque, referred to by Mr. Hodgins, April, 1908. Top part of this photo shows cut as Major Hodgins saw it in June, 1907.



Station 6040—D. R. McDonald's cut at LaTuque, alluded to by Mr. Hodgins, west end of cut, April, 1908. This photo shows cut as it is at present, lower lift being taken out; also upper litt previously taken out, and through which Major Hodgins walked on June 21, 1907.



Station 6040 –D. R. McDonald's cut, LaTuque, alluded to by Mr. Hodgins, west end of cut, April, 1908. Top of photo shows upper lift through which Major Hodgins walked on June 21, 1907.



Station 6034—D. R. McDonald's cut at LaTuque, alluded to by Mr. Hodgins, east end of cut, April, 1908. The top part of this cutting as shown in this photo shows the cut as Major Hodgins saw it in June, 1907.

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Exhibit 66, large photograph of excavation.

Mr. CHRYSLER.—Is this the beginning of the excavation?

Mr. DOUCET.—Yes.

Mr. MOSS.—(To Mr. Doucet): You are working down in this way (pointing to photograph).

Mr. DOUCET.—Yes.

By Mr. Moss:

Q. Mr. Lumsden, how do you think that ought to be classified?—A. I can't tell now. I could tell more on the ground.

Q. You could not tell more on the ground after the cut is finished; this is a cut in the course of excavation?—A. I can't say anything as to how that should be. This looks to me as if there has been a top lift taken off.

Mr. CHRYSLER.—Is that cemented material?

Mr. MOSS.—They are ledge rock and assembled rock mixed together.

By Mr. Moss:

Q. This does not give you any idea at all?—A. I could not tell from that.

Q. What would you say from this one? (Exhibit 65, photograph)?— There is a lot of rock in that.

Mr. MOSS.—Mr. Doucet can identify these photographs now. What are these?

Mr. DOUCET.—Those are photographs taken from 6,030 to 6,046.

By Mr. Moss:

Q. Mr. Lumsden, look at this photograph. (Exhibit 66): This is the slope after it has been taken out and more or less dressed, and this (Exhibit 65) is the face of the cut; there is quite a difference, isn't there, after it has been dressed?—A. There is a difference between the extreme right and left of Exhibit 65.

Q. That shows the sides of the cut after the excavation has been completed, but not yet dressed; is that right?—A. I don't know. This right part looks as if it had been dressed, and the left does not.

Q. It is dressed, Mr. Doucet suggests, but not finally trimmed; would that be about right?—A. I can't say without seeing it. That left looks to me as if a certain amount of slope had been taken out

Q. Then in the face of the cut it appears to be very solid rock?—A. It looks to be the ledge rock here.

Q. Or ledge rock and assembled rock mixed—blasted there?

By Mr. Wilson:

Q. Was this part blasted, or is it natural? (pointing to right side of photograph).

Mr. MOSS.—This is the centre of the picture, the mass of rocks or the collection of boulders and rocks, shown in the centre of the picture, would, I understand, represent the material remaining as the result of a blast or blasts, being now taken out by the contractor by means of a track, and cars running over a temporary track. The slopes at the right and left side of the picture show portions of the cut of the same nature after the material has been removed and the slopes have been partially dressed, but not finally trimmed. Is that right, Mr. Doucet?

Mr. DOUCET.—Yes.

Mr. CHRYSLER.—Without interrupting you, would you let Mr. Wilson see this photograph (Exhibit 66). That is what Mr. Moss tells us is the appearance of the top hard material, whatever it is, after the earth had been removed.

Mr. MOSS.—Mr. Doucet had better speak as to this Exhibit 66.

A. E. DOUCET, sworn.

By Mr. Moss:

Mr. Doucet, this Exhibit 66 shows the same cut exactly as Exhibit 65, but before the bottom lift has been taken out?—A. Yes.

Q. What has been taken out?—A. The right hand part. The surface from right to left.

Q. Draw us a line showing approximately where the original surface comes? (Witness draws pencil line across photograph).

Q. What would that material be?—A. That was common excavation down to there. That was scraped off.

Q. This shows before you started in on the solid rock?—A. Yes.

Q. It would consist partly of ledge rock?—A. Yes. The foreground had been blasted.

Q. And the remainder would consist of mixed ledge or rock assembled?—A. Yes.

By Mr. Wilson:

Now, Mr. Doucet, what would be the measurement of those blocks after it has been blasted, just approximately?—A. They don't measure the blocks separately. They have got their levels on the surface, and they have got the depth.

By Mr. Moss:

Q. They measure the hole that they have left where they came from?—A. Yes.

Mr. CHRYSLER.—They measure in the solid.

Mr. WILSON.—They don't measure individual pieces.

Mr. CHRYSLER.—The difference between the slope lines and the height.

NOTE.—Photograph Exhibit 65 does not refer to station 6034-6040, but to Station 5992-5991.

By Mr. Moss:

Q. This is a photograph (Exhibit 67) showing the cut at station 6040; it is the same cut as we had in Exhibit 66?—A. Yes.

Q. That shows the cut in the process of being taken down to grade?—A. Yes.

Q. And apparently the taking out of mixed ledge rock and assembled rock?—A. Yes. This is assembled rock at the left. This is ledge rock (pointing to right-hand top). That is shattered down with the blast.

Q. What is this in the foreground?—A. That is assembled rock, and when they get into the cut, it is solid rock.

Q. It is extended across the cut?—A. This is probably where Mr. Lumsden has his note that there is 10 or 12 feet of ledge rock.

Mr. LUMSDEN.—I have got a note that at station 6057 there is 10 or 12 feet of ledge rock on each side.

By Mr. Moss:

Q. (To Mr. Doucet) This is the same cut 6040, the same station from another point of view (Exhibit 68); What does this show?—A. This is the other end of the cut (pointing to left side of photograph) from the west coming east.

Q. What kind of material does that show?—A. That is solid rock, except all the top is common excavation.

By Mr. Moss:

Q. Now, Mr. Lumsden, would you look at that photograph and tell me—A. I wouldn't like to say from the photograph what is assembled rock and what is not.

Q. Couldn't you tell as well from the photograph?—A. No, I could not.

Q. You could tell better from a photograph taken at the time than you could by looking at it two years afterwards?—A. Possibly, from the outside, but you can't

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tell what material this is here. That is a lot of stone material there (pointing to top of photograph), but this does not seem so.

Q. You tell us you would not want—A. I would not want to depend on a photograph for classification.

Q. But would you prefer to depend for classification upon a photograph taken at the time the work was in progress, or a view of the cut after it was completed and after it was trimmed?—A. I think I would like to have both; but I would like to have a photograph on the ground, and look at it from the point it was taken.

Q. Did you know these photographs were in existence at the time?—A. I didn't know that these particular ones were, I know there were some photographs, because I had seen some photographs.

Q. You didn't take pains to have those on the arbitration?—A. No.

Q. They might have been of some assistance to you, if you had had them?—A They might have been.

Q. I think they would have been?—A. I think they might have been.

By Mr. Moss (to Mr. Doucet):

Q. Now, Mr. Doucet, this is another photograph of 6040 (Exhibit 69); What does that show?—A. The second lift.

Q. What is the lift?—A. This is possibly 20 feet deep.

Q. Explain, first of all, what is a lift?—A. When you start a cut at a certain elevation, it may be that a cut is 40 or 50 feet deep, as probably in this case, you take a lift of 20 feet, which you call the top lift, working it from the end and taking the material out in cart-loads; then you start again and take out another lift.

Q. Just like storeys of a building?—A. Yes. That cut was taken out in three lifts. (*See* Exhibit No. 104, page 626).

Q. Then Exhibit 69 shows them when they were at work on the first lift?—A. Second lift.

Q. And what kind of material was that?—A. That is assembled rock. The top lift is common excavation, and the second lift is assembled rock.

Q. There seems to be some ledge rock here also?—A. No, that is assembled rock.

By Mr. Moss (to Mr. Lumsden):

Q. You don't recognize those at all (Exhibit 69)?—A. No, I can't say I recognize them.

By Mr. Moss (to Mr. Doucet):

Q. Then, to go back to Exhibit 65, Mr. Doucet, that shows cut at station 5992-5991 in process of taking it down to grade?—A. Yes, that is taking it down to grade.

By Mr. Moss (to Mr. Lumsden):

Q. Could you look up your notes on that, Mr. Lumsden?—A. 5983 to 5998, rock, 101,565; loose rock, 12,573; common excavation, 2,577.

Q. What do you say about that?—A. 'It appears that rock is over-estimated, but impossible to say. Amount in detached rock and boulders now.'

Q. What was the amount of that?—A. I have got no record.

Q. You don't know what the arbitrators say?—A. I have got no decision on that

Q. When you were there did the slope appear anything like the right hand side of this exhibit?—A. Really, I can't remember that individual cut, what it looked like.

Q. I may tell you, Mr. Lumsden, to my mind it is extraordinary, and quite a revelation, the difference that there appears to be in those cuts, the appearance of them at the time they are under construction and after they are completed?—A. Oh, there is a difference, no doubt about that.

Q. A very, very marked difference?—A. There is a difference in them. No doubt about it.

Q. And to the ordinary eye, at any rate, they would present an entirely different appearance?—A. Yes.

Q. And it would be very difficult for an engineer, even an engineer of experience like yourself, viewing this cut when it was trimmed up, as it is on the right hand side of this picture, to judge as to the classification?—A. Well, you can only have your own opinion about it, that is all.

Q. Have you got any basis, any grounds, on which to form an opinion?—A. Except to see where the material went to, seeing the dumps, the waste which came from the cuts.

Q. What about the dumps? Have you any notes about the dumps?—A. No, I have no notes about the dumps; but you do see a dump where the material went into a dump, or into the waste pile if it was wasted.

Q. If it went into an embankment, you don't see it?—A. Well, you see the outside of the embankment.

Q. But the outside of the embankment is trimmed up?—A. No, it is not; as a rule, there is no trimming done on the outside of the embankment—simply shoved over all the time. It takes its own slope, as a rule; very little sloping.

Q. The sand is always on top of the embankment?—A. No; very often, as a rule, you will find stones rolled down to the toe of the embankment where there is a large amount of stone in an excavation.

Q. That depends altogether on the way in which it has come on the embankment, doesn't it?—A. It depends on the way the embankment has been formed, to a certain extent.

Mr. CHRYSLER.—The order of deposit.

The WITNESS.—As a rule, where there is a great deal of rock there is a considerable amount rolls out to the toe of the slope all along.

By Mr. Moss:

Q. Is that what you are basing your criticism of this classification on?—A. No, that is only an item.

Q. What else is there?—A. Well, from what you see—from what I have seen.

Q. You see these slopes presenting an entirely different appearance to what they did at the time they were taken out?—A. Yes.

Q. And there is nothing there, as far as I can make out, that would give you any guide that would enable you to revise this classification?—A. Simply my own opinion of it, that is all I have.

Q. But I suppose, Mr. Lumsden, a man in your position, and a man who has undertaken the responsibilities that you have, if he forms an opinion which is going to involve a question of several millions of dollars, possibly, assumes the responsibility of having some basis for his opinion?—A. Well, my basis of opinion is my experience, and that is practically all, and what I saw on the ground.

Q. I want to analyse that; what did you see on the ground?—A. Well, I saw the slopes of the cuttings and I saw the embankments.

Q. Is there anything else you saw?—A. I don't think so, except in the case of those big cuts; I can't say I saw much else.

Q. And the slopes of the embankments, in many cases, you say the face of the slope was sand or gravel?—A. The embankment, yes.

Q. Of the cuttings, I mean?—A. Sometimes it was sand, sometimes it was gravel. sometimes a great many stones.

Q. Sometimes boulders, but not sufficiently close together, in your opinion, to form assembled rock. That is right, is it?—A. Yes.

Q. Then you tell us that the face of the slope of the cutting would be entirely different?—A. It may or it may not; it depends on the material.

Q. But you, looking at it, can't tell whether it is different or not? You can't tell whether it is in its original shape?—A. Well, you can form an idea whether the material from the top has been falling over it or not.

Q. You can't tell?—A. It depends on the cutting.

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Q. You can't tell in all instances at any rate?—A. Well, from the instances in which the sand or gravel on the top will run over the whole face of the cutting.

Q. You don't seem to have made any distinction between those in which you could tell and those in which you could not tell?—A. I just judged from what I saw on the ground.

Q. As far as I understand, in your notes you have undertaken to revise pretty nearly every cutting there?—A. I have not in this case—in the case you are just referring to.

Q. But you have in a great many of them?—A. I have in a great many of them.

Q. And you have had nothing but the appearance of the face of the slope and what you found in the toe of the embankment?—A. What I saw in the embankment.

Q. In half a dozen cases where you dug?—A. Well, we did not dig in the embankment at all; we always dug on the slopes of the cutting.

Q. You never dug in an embankment at all?—A. No.

Q. So that you have no knowledge at all of what is in the embankment except what your eye showed?—A. Except what is visible.

Q. Then it is on that examination that you based your criticism of this classification?—A. Yes.

Q. And what was the nature of that criticism? Was it, as far as assembled rock was concerned, that they had allowed assembled rock where the material was not actually in contact?—A. I could not tell whether it was or not.

Q. You could not tell whether it was or not?—A. It didn't appear to me to be material that could be classified as assembled rock.

Q. Well, do you mean to say it didn't appear to you as material that could ever have been in contact?—A. The adjoining material from what I could see didn't appear as if it was material that could be classified as assembled rock.

Q. Let me ask you this question: you went over this work with the arbitrators, you made these notes in which, in a large number of cases at any rate, you were at one with Mr. Kelliher in regard to a compromise reclassification?—A. Yes.

Q. And as I understand it, as far as the Grand Trunk Pacific was concerned you considered that ended it?—A. Only in some cases.

Q. In those cases in which you agreed?—A. In some cases.

Q. In the cases in which you agreed with Mr. Kelliher, that was the end of it as far as the arbitration was concerned?—A. Yes.

Q. Then what was your intention with regard to the contractors? Were you going to endeavour to readjust the classification as against the contractors?—A. I hadn't thought of the contractors' part of it.

Q. You hadn't thought of the contractor's part of it at all?—A. No.

Q. What were you going to do on the cuts which were not in dispute by the Grand Trunk Pacific railway, and in regard to which you re-classified?—A. I was only having a note of them to show, to compare with other cuts should any trouble come up hereafter about it.

Q. Why did you allow the arbitrators to——A. The arbitrators chose to do it, they wanted to do it. They made the suggestion to do it.

Q. They made the suggestion to do it?—A. Yes.

Q. And you acquiesced in that?—A. They made the suggestion to go over the whole hundred miles. I am talking about District 'B.'

Q. What reason did they give for it?—A. I don't recollect.

Q. What did you say about it?—A. I said if they wanted to go I did not mind going, but I would not take any steps whatever in conection with them except as to what was under arbitration.

Did you say the same thing in District 'F'?—A. In District 'F' I didn't. We commenced at the beginning and went over it continuously.

Q. What was the difference in the two districts?—A. The Commissioners had

spoken to me in the meantime about our not going over with the arbitrators work that was not protested against by the Grand Trunk Pacific.

Q. The Commissioners had drawn your attention pretty strongly before you started out on District 'F,' had they not, as to the necessity of adhering to the points where objection had been taken?—A. We were only to arbitrate on the points that were in dispute with the Grand Trunk.

Q. Those were your definite instructions from the Commissioners?—A. Yes.

Q. Arrived at after a discussion in which they had rejected the draft agreement with the Grand Trunk Pacific?—A. That was the agreement before that draft was ever submitted as far as I recollect.

Q. That is they rejected the draft agreement on the ground that it made the thing wide open?—A. The draft was objected to by them and by me.

Q. On that ground?—A. Yes. I don't remember the ground exactly but I have no doubt that was part of it.

Q. Let us see if you do not remember. I notice that by Exhibit Number 28 you returned the draft agreement saying that the agreement was unnecessary, and that all that was now required was for the three engineers to proceed under Clause 7 of the agreement and arbitrate matters of classification and overbreak, as specified in your letter to Mr. Kelliher, dated the 1st of February, 1909.—Yes.

Q. Now then, I was trying to get an understanding of why you allowed the arbitrators to go on District 'F,' and go over the whole of it without any distinction being made between the parts that were objected to and those that were not objected to.—A. Well, the suggestion was made that we should go over the whole of it, and I did not see any reason why we should not go over the whole of it.

Q. You did not see any reason why you should not go over it?—A. I thought there was no objection if they chose to look at it:.

Q. You discussed it with them and made your notes on the way as you went along?—A. I talked it over with them.

Q. Each cut as you went along?—A. Each cut as we went along on 'F.'

By Mr. Macdonald:

Q. What interest was it to them if these different cuts had not been objected to?—A. I don't see that they had much interest in it except to know what they were going to pay for.

By Mr. Moss:

Q. If they had agreed to pay for it what right had they to inquire any further?—They had passed the estimates and not objected to them?—A. I didn't object to their going over it at any rate.

Q. You not only didn't object but you went over it with them?—A. I went over it with them.

Q. And you agreed with them at different points that the classification was erroneous?—A. As appeared to me to be so.

Q. And you agreed to that without ever consulting your own engineers as to how the classification had been arrived at?—A. In most cases I did.

Q. Well, in all cases?—A. I can't say all cases because in some cases of loose rock, or rather in indurated clay or clay that had been ploughed we did ask them.

Q. You took them in and put them in the sweat box and gave them the third degree in the pullman car, but you didn't consult them at all in any way as one would expect a chief to do with those under him?—A. We asked them on the ground frequently whether it had been ploughed or not.

Q. You didn't make any notes of what they said?—A. I got one or two notes I think.

Q. Of what the engineers told you on the ground?—A. Of what the engineers told me on the ground.

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Q. You didn't ask for the engineers' field notes, did you?—A. No. The only notes that I remember asking for were the boulder measurements.

Q. The boulder measurements?—A. Yes, in several instances.

Q. As a matter of fact, on District 'F,' didn't Mr. Poulin make several efforts to give information and wasn't he shut up by Mr. Schreiber?—A. He may have been, I don't——

Q. Was he not, as a matter of fact?—A. I don't recollect the question that you refer to. I think Mr. Poulin was perfectly right to give evidence if we had asked him.

Q. He was anxious to give information and was not allowed to do so?—A. I think that may be so.

Q. Then what was your intention in regard to these cuts which had not been objected to by the railway, but as to which you had made this revision of the classification? Was it your intention to revise those, or to attempt to do so, as regards the contractors?—A. I can't say what my intention was. I don't recollect what my idea was at the time as to what should be done with those. I know we only intended to make use of those that were objected to by the Grand Trunk.

Q. You were a good deal crowded for time on this arbitration, weren't you?—A. Well, we were going over it pretty quickly I acknowledge.

Q. And wouldn't it have occurred to you that when you had only a small amount of time at your disposal, it would have been better to devote all your time to examining thoroughly the cuts that were in dispute rather than spending your time over cuts that were not in dispute, and in regard to which the Grand Trunk Pacific had no manner of claim to be consulted?—A. Well, it might look to me so now.

Q. Doesn't it look so to you now?—A. It looks more so to me now, but I didn't think of it then.

Q. As a matter of fact, nearly all your diggings that you made were on cuttings that were not in dispute at all.—A. That first cutting, there was more digging done on that than any, although that was not in dispute.

Q. I think it is true from my recollection, that nearly all your diggings were on cuttings that were not in dispute.—A. I don't recollect the number that were in dispute just now.

Q. Then on that first cutting, where you made the diggings, did you have any discussion with Mr. Schreiber and Mr. Kelliher as to the principles of classification?—A. Not that I recollect of.

Q. You do not remember anything that was said there about that?—A. No. I do not.

Q. That was one I think where you all agreed on the re-classification?—A. I am not sure if we all agreed at the first start or not.

Q. But finally, I think that was the result of your discussion, was it not?—A. I think so. I think we agreed on that if I remember rightly.

Q. And you cannot tell us what it was intended the result of that should be?—A. No.

By the Chairman:

Q. When you went over the work with the arbitrators and found something wrong, why did you not ask questions in regard to the classification of Mr. Poulin, for instance?—A. I don't recollect any particular object in it except that Mr. Schreiber and Mr. Kelliher said they did not want to have any discussion on the ground. That was my recollection of it.

Q. But don't you think it would have been better if, when you found anything wrong, you had asked your engineer in charge on the ground before the arbitrators what his reasons were for classifying in such and such a way?—A. In some instances where the men were there who had made the classification no doubt it would have been better.

Q. And why didn't you ask them?—A. Well, I would say now it would have been

better if we had asked them, but in many instances it was not the men who made the classification who were on the ground.

By Mr. Moss:

Q. In most instances they were, weren't they?—A. I think not. I think most of them in District F. were, but not in District B.

Q. In both districts you had with you the district engineer?—A. Yes.

Q. Either Mr. Poulin or Mr. Doucet, two thoroughly experienced engineers?—A. Yes.

Q. Who had been energetic in acquainting themselves with all the details of the work?—A. Yes.

Q. Do you not think it would have been better to have consulted them?—A. As things are now I think probably it would.

Q. Do you recollect any discussion with Mr. Kelliher on District B. in the presence of Mr. Huestis and Mr. Doucet as to the blue print of January, 1908 (Exhibit 20a)? That is the blue print which accompanied your interpretation of the specifications?—A. Yes.

Q. Where Mr. Kelliher said he was not prepared to accept that blue print.—A. I don't recollect that.

Q. Have you no recollection of that being discussed there at all?—A. I don't recollect hearing Mr. Kelliher saying anything of the kind. I don't recollect the blue print being discussed.

Q. You do not?—A. No.

Q. As a matter of fact, in making that re-classification, did Mr. Kelliher adhere to your interpretation of January, 1908?—A. As far as I know he did.

Q. As far as you know he did?—A. Yes. I don't recollect—

Q. Do you know whether he did or not?—A. I can't tell positively I don't recollect him saying to me that he ever objected to it.

Q. You had no discussion with him?—A. I don't remember his making objection to my classification.

Q. Was there not a discussion about Mr. Woods having accepted your interpretation by letter and did not Mr. Kelliher say Woods had no authority to do that?—A. I don't recollect that.

Q. Well then, Mr. Lumsden, so far as I can make out the arbitration does not seem to have had any principle at all guiding it in this re-classification? You don't seem to have had any discussion, but simply the three of you went there and looked at it and then you each chopped off so much from the classification and then you pooled results? Was that about it?—A. I can't say that. I don't remember any difference between us regarding my interpretation.

Q. But you did not have any discussion? They don't seem to have known of, or to have had your interpretation before them particularly.—A. I don't know.

Q. Had they?—A. I can't tell you whether Mr. Kelliher had or not. He never, as far as I recollect, objected to my interpretation.

Q. Never mind about your interpretation. Did they have any discussion with you at all about the re-classification?—A. Oh, in some places we didn't agree.

Q. How did the disputes arise, what was the bone of contention?—A. As to the amount of one description of material or another?

Q. Did you have any dispute with him about assembled rock?—A. I can't say, I can't recollect.

Q. You cannot recollect any discussion about assembled rock all through that arbitration?—A. I did discuss about assembled rock, but I don't remember any dispute with Mr. Kelliher about assembled rock.

Q. What discussion did you have with the arbitrators about assembled rock?—A. Oh, simply as to the portion that might be considered assembled rock.

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Q. Did you have any discussion as to what constituted assembled rock?—A. I don't recollect any discussion as to what constituted it but as to the amount that might be considered assembled rock.

Q. You don't know whether their minds were working on the same idea of what assembled rock was as your mind was, or not?—A. I cannot say what their minds might have thought.

Q. Well, then, to get back to Mr. Richan, you told us there was nothing in his evidence that caused you to lose confidence. Now, what was there in his work apart from the question of assembled rock?

By Mr. Chrysler:

Q. Would you identify his work, if you are going into it, in some way? Perhaps Mr. Poulin can do it.

Mr. Moss.—Mr. Poulin is not here.

Mr. Macdonald.—Mr. Richan is here.

By Mr. Chrysler:

Q. What are these stations, so that we can identify it with those notes?—A. I can tell you approximately.

Q. All right.—A. From about station 160.

Mr. Moss.—168, Mr. Richan says.

Mr. Chrysler.—To what?

Mr. Moss.—168 to 2468.

The Witness.—I have 2466; they are practically the same thing.

Mr. Moss.—It should be 2468.

By Mr. Chrysler:

Q. What division?—A. Division 5, District 'F.'

Q. He was the engineer of that division?—A. Division engineer.

By Mr. Moss:

Q. What is your ground for losing confidence in Mr. Richan on the ground? What was your reason?—A. Simply that I could not agree with the classification.

Q. Just let us know in what respect?—A. If you will refer to those notes you will see.

Q. We will take these samples you have put in here. Take page 81?—A. Page 79 there is——

Q. There is nothing of his on page 79?—A. Yes, on page 79 there is——

Q. Page 80?—A. The details are on page 80, yes.

Q. Take the top of 80. Those are the samples you have taken, I suppose, of stations which appealed to you as being the most noticeable?—A. Yes.

Q. Take station 553·80 to 566. Mr. McHugh was the resident engineer there?—A. I think so.

Q. Are you aware when that was begun and when it was finished?—A. I am not.

Q. Well, I am instructed it was begun in December, 1907, and finished in September, 1908. That would be a period of ten months, would that be right?—A. That might be.

Q. You cannot tell?—A. I cannot tell.

Q. Is there any record? Does not the profile show?—A. The progress profile, I fancy, will give some idea of it.

Q. Would not the profile you have here show?—A. If it was the progress profile, I think it would.

Q. Then, that was the one we referred to, where you dug down six feet south from centre of track, 3·8 feet good ballast. From appearance this whole cut is C.E., but may be a few yards of rock in boulders. That was digging, not on the embankment,

but in the side of the slope?—A. No, that was digging on the base of the cut, just clear of the end of the ties.

Mr. CHRYSLER.—The evidence given before is at pages 368 and 369, of the evidence, beginning at the bottom of page 368.

By Mr. Moss:

Q. Now, did you tell us what your re-classification was of that cut?

Mr. CHRYSLER.—Look at 371, about half way down is the same thing.

By Mr. Moss:

Q. What did you re-classify it as?—A. I don't seem to have got the re-classification of that. I cannot find it here. I find that note here.

Q. You don't seem to have found anything wrong with that?—A. Except the note says it is all wrong. I do not see any figures here of the changes.

Q. The bulk of that cut, the larger portion of the material returned, seems to have been loose rock. A considerable part of it was taken out in the winter time apparently?—A. I do not recollect; I cannot tell you when it was taken out.

Q. If we are right about those figures I gave you, then it might be that that was returned as frozen material, loose rock?—A. It might be.

Q. It would be entirely in accordance with your instructions?—A. I cannot tell how much there would be on one side, there was so much loose rock.

Q. In a hill-side cut like that in severe weather, there would be a great deal of frost; you can't cover it up over night. It keeps on freezing?—A. It keeps freezing a few inches every night.

Q. It would keep on freezing very considerably, wouldn't it? I mean in the progress of the work?—A. Yes, if they are taking it out from the face, which I assume they did. I don't really know what they were doing.

Q. That is what you told us they were doing?—A. I did not see them working at it.

Q. Are you prepared to say there is nothing in that cut on which you are willing to say that you lost confidence in Mr. McHugh?—A. Well, I cannot agree with the classification that was there.

Q. Can you disagree with it? Have you got material enough to disagree with it?—A. I think so.

Q. What do you think the classification should be?—A. I don't think there should be anything like that amount of rock in it. I can't see any rock in it, except there might have been a few boulders.

Q. You dug down in one place and looked at the face of the slope and you looked at the embankment, or did you look at the embankment, in that case?—A. I don't remember the embankment in that particular case.

Q. Well, now you are prepared on that to say—— ?—A. That was my opinion on the ground that there could not have been that amount of rock. It did not appear to be possible.

Q. Had you any right to have an opinion?—A. My opinion may be wrong.

Q. You had a right to have an opinion, but had you a right to express your opinion of such a nature as you have expressed in this case?—A. I would like with regard to this very thing that you are referring to, to see if there are not some cross-sections in this cut. I think that is the cut in which the cross-sections were all terminated at the edge of the cut for several hundred feet.

Q. Of course any one is entitled to have an opinion?—A. That is what I think.

Q. But if a man is occupying a position of great responsibility in a national enterprise it is hardly necessary that before he expresses his opinion he should have some good grounds for it, because he may cause a great deal of trouble and do a great deal of injustice, if he expresses it lightly or without consideration, and so far as Mr. Richan is concerned, it does seem to me that to that date we have not seen

anything which would justify you in suggesting, in your official capacity, as Chief Engineer—perhaps, in your private capacity as Mr. Lumsden you may have a right to think what you like about Mr. Richan, but as head engineer of this enterprise, it does seem to me that you had no sufficient ground for expressing any want of confidence in Mr. Richan?—A. I could not agree with his classification.

Mr. CHRYSLER.—You have not yet got his answer to the question how he classified this, or what he proposed to do with it.

The WITNESS.—I cannot find my notes for that.

Mr. CHRYSLER.—It is written there in the notes. It is written on page 371.

'Q. Then the note with regard to that is: 'Station 558—50. Dug down six feet south from centre of front. 3·8 feet good ballast; from appearances this whole cut is common excavation but may be a few yards rock in boulders.' What is 3·8 feet, three decimal eight?—A. Yes.'

Mr. MOSS.—Then I asked him if he made any change in the classification. He said 'I do not find any further note on that.'

Mr. CHRYSLER.—That is as far as it goes.

By Mr. Clarke:

Q. Does that mean six feet from the centre of the track?

By Mr. Moss:

Q. Six feet from the centre of the track.

The WITNESS.—Six feet south from the centre of the track.

By Mr. Clarke:

Q. The rail was laid at the time you were there?—A. It was just laid a mile or so beyond there. We were just clear of the end of the ties.

By Mr. Chrysler:

Q. Mr. Richan does not appear to have been asked about this cut in that inquiry that was made, which appears on page 93. The inquiry is, as Mr. Moss pointed out this afternoon with regard to cutting at station 178 and at the bottom of page 94 with regard to 459 plus 461·77. Do you remember any inquiry from Mr. Richan as to the explanation of the classification? He had measured there or allowed in all, over 14,000 yards of rock?—A. 5,730 yards of solid rock, and 9,672 yards of loose rock. What station are you referring to?

Q. Still the same station that Mr. Moss is talking about at the top of page 28, station 553 plus 80 to 566. You say you dug at 558 plus 50, and your verdict upon it, so far as your opinion at the time was concerned was that the whole cut was common excavation?—A. Except a few yards of rock in boulders.

Q. Did you ask Mr. Richan at the time?—A. I am under the impression that the cross-sections were cut. I would like to see that.

Q. Well, we should see that. Well, we had better leave it perhaps until we see. You don't remember now any explanation of the difference, because there is a wide difference there?—A. I don't remember now, Mr. Chrysler.

Q. All right.

By Mr. Moss:

Q. Just look at that profile and see if that will give you the time it was done?—A. As near as I can tell by this it appears it was done from October to June.

Q. October, 1907, to June, 1909?—A. I cannot tell the year; I presume that is what it is. This profile is dated March 23, 1908. That is, the colouring is dated, not the paper.

Q. As you said to Mr. Chrysler, you did not ask Mr. Richan anything about this cut?—A. I don't recollect asking about the time in which it was done. I re-

member something in connection with the cross-section about this cut, but I am not very clear about it.

Q. Did you ask Mr. McHugh anything?—A. I don't remember.

Q. This was finished more than a year before you were there?—A. Finished in June, yes, just about a year.

Q. And the appearance might have changed completely in that time, might it not?—A. Somewhat.

Q. I beg pardon?—A. Somewhat, it depends on what kind of a cutting it was whether there was much change in it. If it was a cutting of a top surface of earth, and gravel, with rock underneath, assembled rock especially underneath, it may change very materially in appearance. It is very hard to say whether it would or not. It may or may not. It may expose some stones or might be covered with some stones.

Q. How could you tell which had happened when you looked at it?—A. Only by looking at the slope of the stone, whether there would have been much wash in that.

Q. Can you form a correct idea that way?—A. You may not always, you may at times be mistaken.

Q. Could you form an idea on which you would undertake to dispose of a professional man's reputation?—A. I formed an opinion of my own about it.

Q. Did you form a final and conclusive opinion?—A. I find that in my notes, that is all I can say, that it looked to me——

Q. Did you intend to make any further investigation in that or did that dispose of it?—A. I am under the impression there was something in connection with the cross-section I referred to.

Q. We will get those up in the morning and you can look at them if you will?—A. Yes.

Q. Well, the next one——

By Mr. Chrysler:

Q. I think it would be wise to put in here the note that Mr. McHugh was examined, at page 95, and the whole of the inquiry in his examination was with regard to 178, so far as it is confined to any particular part of the work, and Mr. McHugh was not asked about 558·50?—A. I think it was on Mr. McHugh's work, yes.

By Mr. Moss:

Q. Now that Mr. Chrysler has drawn our attention to that—it is perhaps anticipating a little—but I would like to show you Mr. McHugh's evidence and say if there is anything there that causes you to lose confidence in him. He has apparently only been examined about station 178?—A. I don't see anything in the written evidence.

Q. Nothing to cause you to lose confidence in the written depositions of Mr. McHugh?—A. No.

Q. As a matter of fact, as far as you can understand, these depositions, Mr. Lumsden, they seem to have been conducted by Mr. Schreiber and also by Mr. Kelliher, somewhat like a college examination?—A. They are not lawyers.

Q. Rather than a desire to find out the actual conditions on the work, didn't they?—A. I cannot say that.

By Mr. Chrysler:

Q. Well, you see that Mr. McHugh is examined throughout as far as it is directed to any particular part of the work with regard to 178 only?—A. Yes.

By Mr. Moss:

Q. I see he was asked—apparently Mr. Schreiber seems to have this idea of the rocks touching each other. Do you notice that?—A. I notice it in his evidence.

Q. He asked this question—'Would you describe the character of rock to be

found there?—A. The rock in that cutting was what I would term, according to the Chief Engineer's interpretation of assembled rock, as solid rock, which laid in strata at bottom of the cut. It was to the best of my knowledge assembled rock.

'Q. Do these rocks touch one another?—A. In some cases they do and in some cases they do not.'

Q. So Mr. Schreiber seems to have had that touching idea in his head too?—A. Well, his diagram shows that.

Q. Well, that is as far as McHugh is concerned.

By Mr. Chrysler:

Q. Well, I was finishing up 558 so far as there is any evidence about it. Well, we will go on now or rather in the morning with 558?—A. We will get to these cross-sections.

Q. 891·50 and 898·50. That is another one about which Mr. Richan is concerned. That note is there 'cut all sand or gravel; very few stones.' Do you know when that cut was finished?—A. No.

Q. I may say it was finished in February, 1908?—A. I cannot find it here. The east end appears to have been commenced in March.

Q. In March, 1907?—A. Worked in April, May, June and July, and the west end of the cut seems to have been started in April, worked in May and June—I have got rather mixed up in these colours. I am not very sure of the date, but one end seems to start in March and the other in April. That appears to have been worked from March.

Q. In March, 1907?—A. I cannot tell the year, from March until following January.

Q. I see, then that would have been done 18 months before your arbitration?—A. I can't say whether that was.

Q. Isn't there anything on the profile to show the year?—A. I can't see on this profile what year it was done in; I am only assuming that the colours are the same as the others and in that case—I assume these are the colours for the year 1908, aren't they, Mr. Richan? These are the colours for 1908, aren't they?

Mr. RICHAN.—1907, sir.

A. 1907, are they—well then, it must have been—

The CHAIRMAN.—It is near the hour of adjournment now.

By Mr. Moss:

Q. Will you look up any of these that you want to see the cross-sections of or anything of that sort, Mr. Lumsden, if you will find out beforehand?—A. That is one.

Q. That is one you recollect?—A. That is the only one I recollect that I would like to see a cross-section of, I am perfectly sure that is the place. I think it is, but I don't happen to have any note of it.

Q. Perhaps it would be better to finish up that station 898·50, that was finished apparently in January, 1908?—A. That appears to be, but I can't tell from the colours the date. Not from these colours.

Q. What is the result of your visit to that, was that reduced by you and the arbitration, or what was done with it?—A. The return as I have it here is 1159 rock in boulders, 649 loose rock and 35,000 common excavation.

Q. 35,132 common excavation, to be accurate?—A. 35,132 common excavation.

Q. Did you reduce that or change it?—A. Yes, I changed it to 59 yards of rock, 200 yards of loose rock and the rest common excavation.

Q. You did, eh?—A. Yes.

Q. You didn't make any inquiry of Mr. Richan or of Mr. Chapelle, the resident engineer in regard to that?—A. Not that I recollect of.

Q. You have no recollection of course now from the appearance of the cut?—A. I haven't the slightest recollection.

Q. Well, do you mean to say that you could tell after the cut was completed whether there could have been 1,100 yards of boulders out of a total of some 40,000 or 43,000 yards?—A. Well, I would expect to see some boulders.

Q. There were 2 per cent boulders?—A. I would expect to see some boulders at the end of the cut.

Q. With 2½ per cent of boulders; you might expect to see them or you might not. Did you feel justified in saying there were no boulders there because you didn't see them a year and a half after it was completed?—A. I would expect to see some boulders even if there were only 2 per cent.

Q. Two per cent of the main cut?—A. Yes, but as a rule the boulders get left at the mouth of the cutting.

Q. And that was your sole reason for cutting off that thousand yards?—A. All I can say is, that is my note here as it stands, there are no details.

Q. As far as loose rock was concerned at any rate you do not know whether it was taken out when it was frozen or not?—A. No, I can't say.

Committee adjourned.

WEDNESDAY, April 13, 1910.

The committee met at eleven o'clock, a.m., Mr. Geoffrion presiding.

Examination of Mr. HUGH D. LUMSDEN continued.

By Mr. Moss:

Q. I was asking you last night about the long cut at Lost Lake, No. 558, and you said that before answering more fully about that you desired to see the cross-sections?—A. Yes.

Q. Have you inspected the cross-sections now?—A. Yes.

Q. Does that throw any further light upon that?—A. No, except that I wanted to be sure it was the same, I know these are similar cross-sections to what I saw on the ground.

Q. Then you dug down at 558·50?—A. Yes.

Q. You dug 6 feet south from the centre of the track and you dug 3 feet 8 inches in, and found it good ballast?—A. Yes.

Q. What part of the cut was that now, that is the long half-mile cut?—A. It was there on that cross-section.

Q. I understand it is 558·50, but is that at the beginning, or the end, or the middle of the cut?—A. I think it is pretty well in the middle of the cut, to my recollection.

Q. That was, as we heard yesterday, a hillside cut.—A. A side-hill cut.

Q. A cutting along the shore of the lake, was'nt it?—A. Yes.

Q. And do you know, did you tell us last night when it had been completed?—A. I don't know, I thought I did from that profile, that is all I am going on, I do not know personally.

Q. Yes, I think you did, you told us it had been finished in the summer of 1908?—A. My recollection was that it was the fall, about November.

Q. August or September, I think you said.—A. It runs in my head that it started in May and was finished in the fall.

Q. No, I think not—whatever you said last night will be correct?—A. That is what I thought from the profile then, I haven't seen it since, that will be right.

Q. Having seen the cross-section, apart from the digging that you spoke of,

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what else was there in that cut that led you to say it was all common excavation?—A. It appeared to me to be all fairly good ballast, a good portion of it.

Q. That is the face of the slope?—A. The face of the slope.

Q. Well, you mean, you say that this whole cut is common excavation, but there may be a few yards of rock in boulders?—A. I think I read you out the note I have.

Q. The note is printed on page 80?—A. 'Gravel and sand, generally gravel,' yes, that is the note.

Q. Well, now, what was in there do you say?—A. That was my judgment at that time on the ground, that is all I can say.

Q. Have you any recollection now in your own mind of the actual appearance of the cut?—A. Well, I have a recollection, I can't say very clearly as to one, for I saw so many cuts, but I do recollect looking at that cut.

Q. You do not appear to have made an actual reduction on that?—A. I have got no note of it.

Q. Do you know whether a reduction was in fact made on that?—A. I cannot say.

Q. And you have told us you made no inquiry as to whether that was taken out, or whether a large portion of that cut, was taken out in a frozen condition?—A. I don't think so. I recollect doing so.

Well, then, I asked you, I think, and I think that is what led to your referring to the cross-sections, whether there was anything in that cut that caused you to lose your confidence in Mr. Richan, or what it was?—A. Simply I could not agree with the classification from what I saw of it.

Q. Because you didn't find any boulders?—A. I didn't find any.

Q. You had not been striking any boulders or any rock when you dug in this 3 feet 8 inches into the bank, and because the face of the slope was largely covered with gravel.—A. What appeared to me to be fairly good ballast.

Q. I see. What was the nature of the top surface of that, do you remember?—A. I don't recollect.

Q. You don't recollect?—A. No.

Q. Of course you could not, if the face of it at that time was all covered with gravel, you could not perhaps notice the top surface.—A. I don't think I was up on the very top, in the centre of that cutting.

Q. Assuming that the formation is something like this, that there was a considerable bed of earth and gravel on the top, and below that there was this cemented material containing boulders, large quantities of boulders, and that was taken out, wouldn't there be a very great tendency in the course of a year for that gravel to come down and cover up the boulders?—A. Well, it might, it might come down.

Q. Would not that be the natural tendency?—A. It would depend upon how the slopes were taken out, if the slopes——

Q. If the slopes were taken off 1 to 1?—A. 1 to 1 it might, but 1½ to 1 it would be questionable; it would depend upon the material whether it would stand 1 to 1 or not.

Q. You have not sufficient recollection of that place to say whether it would stand?—A. No, I do not pretend to say, I do not recollect whether I was on the top of that cut.

Q. You made no note of it at the time?—A. I do not recollect having done so.

Q. My recollection, Mr. Lumsden, is that at one stage of your evidence you spoke of this cut and referred to the fact that a cross-section showed assembled rock as being in the form of a cone on the right of way.—A. Yes, I thought that was the cut, I wasn't sure, but I see by the cross-section that is the one.

Q. Do you attach significance to that? I mean did you think that was inaccurate?—A. No, except it is rather a peculiar thing for it to terminate always where the formation level strikes the bank. I mean by that, if you look here (pointing to cross-section) you will see that this slope terminates 11 feet out from the centre, and that

is where the natural slope begins on the bank, and it does the same thing at that point; it doesn't do this in here. It is only the coincidence. I am not saying anything more about it. In this cross-section it is 11 feet out; I think that is the same, yes, 11 feet.

Q. At that point, Mr. Lumsden, isn't it a fact that the cutting ran along the base of the hill on the lake shore?—A. Oh, yes.

Q. Around the curve?—A. It wasn't on the shore actually, as you see by this (indicating diagram) there is quite a bit of a cutting, some of it was borrowed afterwards, between the actual line and the lake shore here.

Q. It is quite close to the lake shore?—A. Oh, within a hundred feet, sure.

Q. And the right of way followed the contour of the hill, followed around the contour of the base of the hill?—A. The curve did, yes.

Q. Now, it would be a very natural thing if there were a cone of boulders there that it should be used?—A. It might be; I am not saying that the cone of boulders wasn't there.

Q. I thought, from the way you gave your evidence before, you certainly spoke as if it were a matter you regarded with suspicion?—A. It is from the fact that five out of the seven of these terminated exactly at the limit of the slope.

Q. I see?—A. That is the only thing that looks peculiar, that it should be so; but there are two of them I see did not.

By Mr. Chrysler:

Q. There are three of them that did not?—A. Three of them did not, rather.

Q. And one of these does not show the line?—A. No.

Q. I understand that this one shows this line, Mr. Lumsden; he has plotted it as cemented. Well, now, the earth is there?—A. That is right.

Q. And this is the same as that, marked assembled rock?—A. Assembled rock and cemented gravel there.

Q. He doesn't show the boundary between them?—A. He doesn't show the boundary between them, that is the only thing.

Mr. Moss.—We had better have those cross-sections identified in some way.

(Cross-sections Nos. 16 and 17 filed as Exhibits 70 and 71, respectively.)

By Mr. Chrysler:

Q. What Mr. Lumsden is referring to is this, of course, the others are to some extent conventional, they don't get straight lines like that, but the whole content of the excavation is from there down to there and up here (indicating on the cross-section). These are the slope lines; well, then, he has made at that station a division of it showing the earth so, and the assembled rock in that triangular form there, and some gravel up to this, and that limit of assembled rock just goes, you see——A. Exactly, 11 feet out from the centre of the track, which is half the width of the base of the cut.

Q. And so it does here?—A. It is the same thing here, and it was the same thing in the other places; I think it is the same thing there, and the same thing there (illustrating).

Q. It is a vertical line?—A. It is a vertical line there and a sloping line there (indicating on cross-section).

By Mr. Moss:

Q. Well, of course, Mr. Lumsden, these lines on the cross-sections, they are not intended to be exact reproductions of the state of nature as it was?—A. Well, I don't say they can be exact.

Q. The idea is to be approximate and to show the quantity, isn't it?—A. Yes, to show the position, approximately the position, in which it was laid.

Q. And if you have a place where the assembled rock was mixed with other

material, and if you had some of it that had to be done by estimate, in accordance with your instructions, you would put it on the cross-section in some conventional form so as to show it, wouldn't you?—A. I would put it as near as possible where it was shown on the ground.

Q. But you would have to make some kind of jump at it?—A. I would not be able to put it exactly where it was, but I would be able to put it on the average where it was.

Q. And under those circumstances, it would be a natural enough thing for an engineer, not knowing where it was, to take it from the edge—— ?—A. I don't see that that would be necessitated at all.

Q. It would be an unnatural thing for him to do?—A. No necessity for taking the actual edge to start from—the actual intersection of the solid bank with the formation.

Q. No necessity for him to do it, of course not?—A. I mean it is not likely except as it happens in this case that he would actually do that.

Q. I want to get it quite clear that you did not attribute any sinister motive, or anything of that kind to this?—A. I can't, for I never saw it.

Q. It struck me that if a man had a sinister motive in his mind, it would be a very foolish way for him to go to work at it, for those blue prints were returned to you a month before this?—A. I never saw them until I saw them on the work.

Q. They were there?—A. I doubt whether they were in the head office here. I think Mr. Poulin had the copies of them. I don't think they were here. I could not be positive.

Q. At any rate they would be?—A. They would eventually be in the head office.

Q. And they would have been in the head office before this arbitration went on, wouldn't they?—A. I doubt it.

Q. Can't we find out about that?—A. They can tell in the head office; I can't, but I am pretty sure Mr. Poulin in the district office at Winnipeg, had copies of them.

By Mr. Clarke:

Q. What is the width of the base?—A. 22 feet where it is earth, and 20 feet where it is rock.

By Mr. Moss:

Q. So that it is a thing that would—to put it that way—invite attention and comment?—A. Just as I comment on it now.

Q. Something peculiar?—A. Yes.

Q. And it would not be a device that a man would likely adopt for a sinister purpose?—A. I would not think so.

Mr. CLARKE.—Where the rock comes out to that line (referring to blue prints) are they successive cross-sections?

Mr. CHRYSLER.—Those two pages show seven successive cross-sections.

Mr. CLARKE.—How far apart?

Mr. CHRYSLER.—50 feet.

Mr. Moss.—Of course, Mr. Richan will explain that. As a matter of fact those were places where the measuring was done by estimates, and it was a conventional drawing just to indicate in a rough way, as Mr. Lumsden says, the position.

By Mr. Moss:

Q. Then Mr. Lumsden, we go on still on Mr. Richan's work, to station 1,383-1,397; you say there, 'ballast pit; no boulders in sight; all sand and light clay'?—A. Yes.

Q. What was the result of your adjudication upon that?—A. It was all common excavation except 427 yards of loose rock.

Q. You cut out all the solid, and reduced the solid to loose rock, and the loose to common?—A. Yes.

Q. Do you know when that work was finished?—A. No.

By Mr. Clarke:

Q. According to your notes, should it not all have been reduced to common—no boulders; ballast pit; all sand?—A. I allowed 427 yards as having possibly been boulders.

By Mr. Moss:

Q. Why did you allow it as loose rock?—A. Because I saw no stones in the neighbourhood big enough for solid rock.

Q. There had been boulders there of a yard or more, and they had to be blasted; you would not see them there?—A. No, you would not see them there, but you would probably see some of them in the neighbourhood of the embankment in which it was made.

Q. Would you?—A. Well, you might or might not.

Q. Where you have 58,000 yards of material, and the engineer returns that there are 427 yards of boulders, now would you be likely to see those boulders?—A. I might not see them.

Q. And it was because you may not see them that you allowed them as loose rock, wasn't it?—A. Yes.

Q. Then if you allowed them as loose rock because you might not see them, how did you know whether they had been boulders of over a yard or not?—A. I could not tell.

Q. Then what right had you to cut that down from solid rock to loose rock without any inquiry?—A. Simply because I did not see any solid rock in the neighbourhood—any boulders big enough for solid rock in the neighbourhood.

By Mr. Clarke:

Q. Nor big enough for loose rock?—A. No, nor big enough for loose rock.

Q. Wouldn't it follow, then, that they should have been common excavation, if you didn't see anything that would come under the classification of either solid rock or loose rock?

By Mr. Moss:

Q. Is it not a fact, or do you remember, that that cut goes across the lake there?—A. That cut?

Q. Or rather the embankment leading out of that cut?—A. I don't recollect.

Q. I am told by Mr. Richan that that is the case that the dump from that end is under water?—A. I don't recollect. I have got no note here.

Q. If that were the case, of course the boulders would be to a large extent under water?—A. Very likely.

Q. And you would not expect to see them?—A. If they are under water you would not see them, probably.

Q. Now, just looking at it in the light of what we have heard, does it strike you that that was a reasonable thing to do?—A. Well, I know that is what I did.

Q. But I am asking you now for your opinion as an engineer? Did you think that was a reasonable thing for you to do?—A. My opinion on the ground was that it should be so; that that was a fact; that is all I can say.

Q. I would like you to say more, Mr. Lumsden, if you would be so kind?—A. I can't see that I can say any more. I can't express any opinion without being on the ground again.

Q. But I am asking you to look at it from the point of view not as if you had been the examining engineer yourself at all, but as if it were a stranger, and look at

it impartially and see whether you think that under the conditions as you have described them, where you go out there and inspect a cut and find no boulders in sight, and that 427 yards have been returned as solid rock—which would mean boulders of over a yard—you come to the conclusion that there may have been that quantity of boulders there, but you cut the boulders down from the size of a yard to a smaller size—a foot and over?—A. Yes.

Q. Now looking at it in that way, was that a reasonable thing to do, or fair to the engineers, to do that without any inquiries?—A. Well, I suppose I might have inquired on the ground more about it.

Q. Don't you think you should have done so?—A. Well, I think I might have.

Q. Then as to the loose rock, of course, that was a large cutting, that 1383, wasn't it?—58,000 yards is a good big cut?—A. Yes, a good sized cut.

Q. You made no digging there, of course?—A. No.

Q. And you made no inquiry as to whether there was frozen material included?—A. I don't think so.

Q. You judged, just as in the other cases, by the appearance of the slope?—A. By what I saw on the ground, that is all.

Q. What else was there to see except the appearance of the slope?—A. There was only the surface of the ground and the surface of the slopes, and of the slopes in the embankment—the toe of the embankment.

Q. Then the next Station, 2315-2323—I think that was one of those objected to; what quantity did you allow on that, you and the arbitrators?—A. I have got no quantities at all in that; no change in that; I have simply got that note. (Reading) 'Something wrong here. R. should not be more than ½ of all in cut, and ½ remainder C.E.'

Q. You were judging that in the same way?—A. In the same way.

Q. Then the borrow pit at Station 1145, Rocky Lake, I think you told us that you had no quantities for that; that that was passed by the Board?—A. I think there are two Stations 1145; I fancy that is the second one; I don't know whether that is on Mr. Richan's at all or not. I think it is another 1145. Yes, I have got here 'Rocky Lake.' I don't think that is on Mr. Richan's work. It is away on, further west than Mr. Richan's.

Q. We won't bother about that, then. Well, that covers Mr. Richan's work as far as the material returned as solid rock, which you say should have been loose rock or common excavation?—A. That was my idea about it.

By Mr. Clarke:

Q. Are there two Stations 1145 in the same district?—A. Yes.

Mr. CHRYSLER.—Not on the same division, but in District F.

Q. Do the stations commence at 0 in each division?—A. No, not necessarily; they have sometimes commenced at 0, and then owing to revisions, or different parties being started, another party 40 or 50 miles further started at 0 also.

By Mr. Moss:

Q. They begin largely at the contracts?—A. No, this station did not, because the stations were nearly all done before the contracts were let.

Q. That, then, gives us all the instances that you have mentioned on Mr. Richan's division where solid rock had been returned, when you say it should have been loose rock, or common excavation; now, before we leave that subject, you spoke last night about having seen a considerable pile of boulders outside the end of the long cut?—A. Yes.

Q. That was at the east end?—A. At the east end and at the north side.

Q. And you said you saw no boulders in the embankment?—A. Very few that I remember seeing in the embankment.

Q. You saw a few in the toe of the embankment, but not many; now, do you

know how that embankment was constructed?—A. Well, my recollection of what I saw is that they were working with the side dumpers.

Q. How many side dumpers? How many tracks did they have?—A. I don't recollect the number of dumpers.

Q. When you speak of working with the side dumpers, I think it perhaps gives an erroneous impression to the committee, because I know it did to me last night. Those are run on a narrow-gauge track, are they not?—A. Yes.

Q. A 30-inch gauge, something like that.

Q. And the way they do it is to run the track down the middle first, and then work out from that?—A. Sometimes they do. Sometimes they keep extending, making a double track so that they can bring their empties. They put a double track in places so as to pass their cars.

Q. Sometimes they put three tracks?—A. I don't know; I have very seldom seen them put three tracks.

Q. I am instructed that at this particular place they work with three tracks, and that they would take their cars out to the end of the embankment and keep dumping ahead of the embankment, if I make myself clear?—A. I only recollect seeing side dumpers working when I was there.

Q. They would be side dumpers, but they would take them out and dump them, they would build up?—A. They were dumping off each side, off a temporary track.

Q. Do you mean not going out to the end?—A. They were gradually getting out to the end as they filled it out.

Q. When you were there, when do you mean?—A. In June, 1908.

Q. How far out had they got? Was the embankment just starting then?—A. Oh, it was out quite a little bit then.

Q. My instructions are that later on it was done as I say, with three tracks?—A. They may have been putting three tracks on, I don't know. I don't recollect the number of tracks when I was there, but I don't think there were more than two, if there were two.

Q. Assuming that that is so, and that the embankment was built in that way, working out with three tracks, and working out from the end——A. I can't see what they were working the three tracks for.

Q. Supposing there were two tracks?—A. My idea is they would not put up a trestle for two tracks. A trestle would only be for one, and as soon as they got it wide enough they would put another track on the dump that had been made from the trestle.

Q. That would be your idea of it?—A. That would be my idea; I don't know how it was done.

Q. You made no inquiries?—A. No.

Q. Supposing it was done the other way, and as soon as they got started they simply worked out with the embankment, and put their track—followed the embankment out?—A. Well, the side dumpers were very awkward to do it, I should think.

Q. It may or may not have been awkward; supposing it was done in that way, the rock and boulders being dumped over the end of the embankment, would naturally remain towards the core of it, would they not?—A. Yes, if they were dumped over the end, no doubt; but if they were dumped to the side they are more liable to roll out.

Q. Some of them would roll out?—A. Some of them would roll out, and some of them towards the toe of the slope.

Q. If they were dumped over the end you would expect to see very, very few of them outside?—A. You would not see many.

Q. And if that was the case, that would quite explain the appearance that you saw there?—A. That would explain not seeing so many boulders.

Q. Then about these boulders, that you said were piled at the end of one of the cuttings, that was at 558, wasn't it?—A. Somewhere about station 180, I have got it.

APPENDIX No. 3

Q. What is your note about the boulders, again?—A. It is west of 180.

Q. What is your note?—A. (reading) 'At west end of cuts, stones 400 feet long by 6 feet deep.' Those were boulders.

Q. And you have a recollection of that?—A. I have a recollection of seeing a big pile of stone there.

Q. That would be the end of the long cut?—A. It is beyond the end of the cutting.

Q. Beyond the end of the long cut?—A. Yes.

Q. West of the end of the long cut?—A. Yes.

Q. Do you know whether at that point the dump was widened out of the pile of steel rails?—A. I can't tell whether it was or was not; I don't recollect.

Q. That is what Mr. Richan's profile shows?—A. It may. At the time those stones were there, I don't think there was any widening out at the time that I recollect of.

Q. Now, if you have a cut, or when you come to trim it you have boulders left here and there in the face of the cut, which the engineer thinks may be dangerous, liable to be dislodged, if he is careful he will order the contractor to take those out, won't he?—A. Yes.

Q. And they will not take them out and put them in the embankment; they are taking out individual boulders like that?—A. Not after the cut is finished.

Q. And the proper course would be to pile those outside or get rid of them outside the cut?—A. That is what is generally done, but this time I refer to the cut as not finished ; it was not trimmed.

Q. The cut was not trimmed?—A. I am referring to this pile of stones; this memorandum was made in June, 1908—the 4th of June, 1908.

Q. Mr. Richan tells me that what you saw there was part of the dump?—A. Well, it may have been made part of the dump afterwards; the dump was widened over it; but certainly those were all loose stones by themselves, without earth mixed with them, upon the north side of what was then the dump.

Q. Were they separated from the dump?—A. There was no earth over them at all. They were all in just as if they had been rolled off the earth portion of the dump. That is what they looked like to me.

Q. You made no inquiry at the time?—A. No, not at that time.

Q. You never made any inquiry?—A. No, I don't think I did.

Q. Did you look for them when you went up on the arbitration to find out what had become of them?—A. I don't recollect doing so.

Q. What did you take the note for?—A. Well, I took note at the time because I noticed this big pile of 400 feet of nothing but boulders thrown over on one side of the dump.

Q. Did it strike you as a matter that was worthy of inquiry?—A. No, not at the time, because the work was not completed. All that I made the note for was to account for so many boulders.

Q. What was your whole note about that cut in June, 1908?—A. I have given it to you.

Q. I don't think you gave us the rest of that?—A. I think I gave you the whole memorandum of what was in that, yesterday.

Mr. CHRYSLER.—He said that there were boulders piled out at the mouth of the entrance to this cutting, over the side slope, 400 feet in length and six feet in height. I don't know that he made any comment upon it.

By Mr. Moss:

Q. Is that the only note you have on this cutting?—A. I thought I gave you that note.

Q. I don't think we have ever had the June, 1908, note?—A. That was the note of 1908 I was giving you last night.

Q. Have you any other note of that cutting except those stones?—A. Yes. I also gave you that memorandum.

Q. Give it to us now?—A. Station 169 at that time was the east face of the cut; that was from the work that was going on to the eastward.

Q. What is your note about the eastward?—A. (Reading) 'Station 169, east face of cut. At the east end of the cutting from the west, say, Station 180 plus 10, cut in sand, quick sand, and a few boulders. Rock was loose rock.' That is just a note of that.

Q. What does that mean?—A. That means there were a few solid rock and a few loose rock boulders.

Q. And that was at Station 180 plus 10?—A. That follows 180 plus 10.

Q. At what stage was the cut at that time?—A. Well, according to these notes there would be about 1,100 feet of it that was not open; 1,100 feet in length at the centre of the cut.

Q. Were you dissatisfied with the classification at that time?—A. Yes; my recollection is that when I met Mr. McHugh I asked him about how he was classifying it, how he got so much rock in it, and I think I asked Mr. Poulin about it.

Q. And their explanation satisfied you, did it?—A. No, not at the time. I spoke to Mr. Poulin afterwards about it.

Q. Did you express dissatisfaction with it?—A. I did to Mr. Poulin.

By Mr. Clarke:

Q. They were working from the west towards the east?—A. At the time I referred to, when I saw it, they had been working at the east end and they were drawing rails. They had abandoned working at the east end at the time I refer to; they were putting in rails to again start at the east end. They were working from the west end.

Q. 1,100 feet was particularly where they got up to from the west end to the east?—A. To where they had got up to from the east; about that.

Q. The difference between 169 and 180?—A. Yes.

By Mr. Moss:

Q. From 169 to 180 would be just 1,100 feet?—A. Yes. That is just what I think would be left in the cutting, too.

Q. And you were just noting the face at the east end as it stood at that time?—A. At the west end. 180 is the west end. It is the east end of the cutting; that is, it is the east end of the cutting from the west.

Q. Coming from the west?—A. Coming from the west, and the other would be the west end of the cutting coming from the east.

Q. It would be the west end of the cutting as it stood at that time—the west end of the uncut portion?—A. Of the uncut portion; yes.

Q. Of the uncut portion as it stood at that time?—A. Yes.

Q. And you were observing then just the face of that as it stood?—A. I was just observing what I saw there then.

Q. You made no investigation then into the conditions in regard to the part that had already been taken out?—A. No.

Q. Made no observations?—A. No, except I just noted what I have got here; that is all I can say now.

Q. You have no recollection of the circumstances?—A. Well, I recollect being there.

Q. You made some remarks to Mr. McHugh and Mr. Poulin, as you say; you don't recollect exactly what you said to them?—A. No.

Q. And the whole matter dropped there, did it?—A. If I recollect rightly, Mr. Poulin was going there shortly afterwards and he was to see about it.

Q. There is a note at the bottom of the blue print of the cross-section of station 554 plus 25, '2823·7 cubic yards deducted from the total used for riprap.' What

would that mean?—A. That would mean that they had taken stone out of the cutting and used it for riprap, and they were paid for it as riprap.

Q. And therefore it was deducted from the return as——A. Was there no borrow on that station?

Q. There is a borrow pit at station 548 apparently.—A. No, but there was a borrow pit farther east than that on the cut if I remember rightly.

Q. Would the note that 2823·7 cubic yards were taken from the total indicate that there had been stone taken out of the cross-section and used in the riprap?—A. That is what it would appear to indicate.

Q. And therefore it would not be——A. Chargeable.

Q. It would not be chargeable as rock?—A. No.

Q. That would indicate that there was a considerable quantity of rock there, wouldn't it?—A. Some of that may be in the borrow pits. I am speaking from memory, but my recollection is there was a borrow pit towards the east end of that cutting.

Q. There is a borrow pit there?—A. That is what my recollection was, that there was a borrow pit somewhere and most of that stone came from that borrow pit.

Q. That borrow pit of course was right off the right of way?—A. Yes.

Q. Right off the line?—A. Yes.

Q. And that would indicate that there was a good deal of stone in that immediate vicinity, wouldn't it?—A. Yes.

Q. Did you take that into consideration in condemning this cut?—A. I don't recollect it.

Mr. CLARKE.—They get paid for rock from borrow pits, don't they?

Mr. CHRYSLER.—If earth is available it should be used and they get an earth price for it. That is right, Mr. Lumsden, is it not?

The WITNESS.—Yes.

Mr. CHRYSLER.—There should not be any borrowing of rock or material harder than the material classed as common excavation.

Mr. CLARKE.—Unless by direction of the engineer.

By Mr. Clarke:

Q. I suppose then that if the contractor took rock from a borrow pit which the engineers approved of he would be paid according to the rock classification?—A. Yes. There are cases in which we sanction the borrowing of rock to make up the embankment, but this is a case of taking rock for riprap, in which the contractor is supposed to furnish the stone and put in the riprapping which has a price higher than the price of ordinary rock.

By Mr. Moss:

Q. But, Mr. Lumsden, your explanation about that borrow pit will not hold, will it? Because if it had been taken from the borrow pit it ought not to be returned at all?—A. It ought not to be in the return, but it ought to be deducted from the quantities in the borrow pit.

Q. So that that note would indicate that the rock had been taken from the line itself?—A. Were not that cutting and borrow pits, or a great deal of them, taken out together and shown on the cross-section together?

Q. I do not know, you have the cross-section there.—A. What station do you say that cut is in?

Q. Station 554 plus 25. It is the last Exhibit No. 72?—A. Yes, 554 plus 25.

By Mr. Chrysler:

Q. There are two cross-sections on that sheet?—A. Yes. This cutting is represented here as taken out nearly 75 feet wide at this point. This is the cross-section

with the borrow pit and it does not appear to be a cutting at all. The slope in this is less than 1 to 1, that is the slope at which this has been taken out. This appears to me to be a borrow pit at that station.

Q. You say that is a cross-section of a borrow pit?—A. Yes, of a borrow pit.

Q. Then that does not help us any. That was immediately adjoining. The east end of this cut.

Q. And the significance of that would be that there was a borrow pit there from which large quantities of stone were taken?—A. Yes, they probably went there to get the stone for the riprap.

By Mr. Clarke:

Q. In that case they are paid for the riprap in place?—A. Yes.

By Mr. Moss:

Q. Then we will take, Mr. Lumsden, as far as Mr. Richan is concerned, the points at which material which you say was returned as loose rock should have been returned as common excavation. We find those at page 81 of the Proceedings. Now take station 659 plus 15 to 662. There the return is 2,324 loose rock, 405 common excavation. Your note is 'All common excavation except possibly five yards loose rock.'—A. 'All common except possibly five yards of loose rock,' and a query after it. That is all the note I have got.

Q. That is the whole of the note you have on that cutting?—A. Yes.

Q. That was a small cutting?—A. Yes.

Q. That is on Mr. Richan's division, isn't it?—A. Yes.

Q. See if you can find it on this profile? Station 659 plus 15 is what I have got.—A. (After examining profile). This profile does not seem to correspond with my notes at all and does not with the next figures. I wonder whether there is not a possibility that a borrow pit happened to be there? Unless there had been a borrow pit, and I have not got it marked down as a borrow, that is the only way I can account for it.

Q. You cannot tell us anything about that at all?—A. Unless it is a borrow pit and I have no note that it is. I can't say what else it appears to be. There does not seem to be any cutting there.

Q. This appears to have been protested by the railway, 659 to 667.—A. Well, there is a cutting from 659 plus 50.

Q. Yes, to what?—A. To 667.

Q. A very small cutting, is it?—A. It is shallow.

Q. How deep is it?—A. The maximum depth is about 6 feet.

Q. How long would it be?—A. About 750 feet.

Q. A long shallow cutting?—A. Yes. I will tell you what I think the mistake is. My figures should be 659 plus 50 to 667.

Q. If that was taken out in the winter time it would probably be all frozen material would it not?—A. There would be a good deal of frozen material in it if it was taken out in the winter.

Q. Practically all?—A. Oh, not all of it.

Q. Nearly all?—A. It would depend on the material, whether it was dry or not. If it was dry it would not be frozen.

Q. It might be?—A. The ends of it would be. It is not probable that the frost would go to the bottom in the middle of a cut.

Q. You, of course, made no inquiry in regard to that?—A. No, I don't know when it was taken out, in what time of the year.

Q. Then if there had been what we may call loose rock in it, it would not show in an embankment of that character after 7 months?—A. I think you would see some

loose rock either on the face of the cutting, or the toe of the embankment, or on the surface of the adjoining ground.

Q. You did not tell us what you did see there?—A. No, I cannot.

Q. You simply say in what appears to be an arbitrary way that it was all common excavation?—A. That is what it looked to me as. That is all I can say.

Q. Then that is the whole of your note about it (reads) 'All C.E. except possibly 5 yds. L.R.'—A. Yes.

Q. You don't remember where you got your 5 yards of L.R.?—A. No.

Q. Then station 815, that is a borrow pit?—A. Yes.

Q. Your note there is (reads) 'All C.E.'?—A. Well, my note is (reads) '2,100 yds. C.E.'

Mr. CLARKE.—What does the percentage sign before 'C. E. 1050' mean on page 81?

By Mr. Moss:

Q. Is that proper as shown in the printed proceedings?—A.—(reads)—'Station 815 Borrow: 1,050 yds. loose rock, 1,050 common excavation.' I have got a mark for percentage and then under that 2,100 yards, C.E.

Q. That means the engineer had taken a percentage and allowed fifty per cent loose and fifty per cent common?—A. Fifty per cent common.

Q. But if you look at page 81 of the printed proceedings you will see there is a percentage sign in front of the common excavation?—A. Well, I presume that is the way it got in. I don't think I could have put it in that way, as to have the percentage mark ahead of the C.E. Fifty per cent was returned.

Q. It has no significance on the printed page of your return?—A. No; I have got the same mark on my notes, and probably that is the way it originated.

Q. You can't tell us what the material was in this cut?—A. No, I can't tell you in that cut what it was.

Q. Whether it was sand or clay?—A. Whether it was sand or clay. All I know is that at the time it was my impression of it.

By Mr. Clarke:

Q. What does your percentage sign mean?—A. That this return was a percentage return.

Q. By the engineers?—A. Yes.

By Mr. Moss:

Q. Station 1080 plus 15 to 1086. That is the disposition made by you in the same summary way? That is all 'C.E.?'—A. Yes.

Q. You can't tell us anything more about it?—A. I have got no more note about it.

Q. You have no recollection of the cut at all?—A. No; none whatever.

Q. Then station 1093 plus 80 to 1096 plus 50. Your note there is 'no stone in sight?'—A. Yes.

Q. Well, did you reduce the classification in that?—A. I have got '1092 common excavation.'

Q. You stuck it all in as common excavation?—A. All as common excavation.

Q. And your note is, 'No stone in sight'?—A. No stone in sight.

Q. And you have no recollection of that cut at all?—A. No, I have no recollection.

Q. And of course you made no inquiries as to it?—A. No, I don't think so.

Q. Now, station 1383 to 1397.

Mr. CHRYSLER.—You need not go into that. The figures are the same as appear in the third item on page 80. It is repeated here under another heading.

By Mr. Moss:

Q. Now, station 1499 to 1508?—A. I have got that all common excavation.

Q. And the only note you have on it is——A. 'Was not a boulder.'

Q. You have nothing else in your notes?—A. No.

Q. But you changed it all to common excavation?—A. I have got it all down as common excavation.

Q. Do you know when that was taken out?—A. No.

Q. That must have been a long shallow cut, too?—A. (After examining profile). There is no cut at all at 1499 here. I am afraid that is off on the other chainage. No, it cannot be on the other chainage either. Oh, it is a borrow pit; that is what it is; it is a borrow pit, not a cut.

By Mr. Chrysler:

Q. Well, Mr. Lumsden, a borrow—your remark there 'Is not a boulder,' but if a borrow pit is selected by direction of the engineer and the material is indurated clay or gravel, which cannot be moved without a plough, with more than six horses or blasting, that would be loose rock, wouldn't it?—A. Yes.

Q. I suppose you don't know what this was?—A. I do not know what this was.

Q. Except that there were no boulders?—A. That there were no boulders, but what appeared to me to be common excavation. Really that is all I can say about it.

Q. The engineer would not select such material for a borrow pit, I suppose, if better material could be got?—A. He should not.

Q. It would be a matter of fact and a matter of discretion of the engineer?—A. Yes.

By Mr. Moss:

Q. Then 1726 to 1742. Would you look at that on the profile and see what the nature of that is?—A. Yes. It is muskeg, low ground.

Q. Is that a cut or a fill?—A. That is a fill. It was all a borrow pit.

Q. Your note is muskeg or common excavation?—A. Common excavation.

Q. What does that mean? It is a fill going across this muskeg?—A. Yes.

Q. And you judged from looking at the embankment, did you?—A. I judged looking at the borrow pit and embankment.

Q. Well, which borrow pit would this be taken from? Was there a borrow pit immediately joining the muskeg?—A. This was evidently a borrow pit in the muskeg.

Q. Then you don't know at all what time of year that was taken out?—A. No.

Q. And you don't remember anything now as to what the material in the borrow pit was?—A. No, except I imagine from my note, being 'muskeg,' it was muskeg borrow; that is, it was muskeg that was borrowed to make the embankment.

Q. Do you do that?—A. Very often. If you cannot get anything else in the neighbourhood you take muskeg.

Q. It is not very satisfactory?—A. No, it is not; it sinks very much.

By Mr. Clarke:

Q. Do you get rock in the muskeg?—A. Very seldom. You do once in a while get some stone in the muskeg.

By Mr. Moss:

Q. If an engineer ordered that to be taken and it was frozen, it should be allowed as loose rock?—A. If he was made to do it when it was frozen, possibly he should, but I don't see why he should be made to use muskeg unless it was a case of that particular part being the only part unfinished, or something of that kind.

Q. We have had all this before, but Mr. Poulin was sent up there and told to rush this work through?—A. Yes.

Q. It was hanging back after Mr. Hodgins left. It had hung fire and Mr. Poulin was sent up there and he was instructed to get this through because that was the con-

necting link that had to be put through to get through to the Grand Trunk Pacific?—A. Yes.

Q. And in carrying out these instructions, it would be perfecly proper for him, if in his discretion, he thought it would be expediting the work to order work to be done under winter conditions which, if there was more time available, you might prefer to do under summer conditions?—A. There is some sort of work you would not do in winter unless you were obliged to do it.

Q. If you were pressed for time. Mr. Poulin was pressed for time all along in this work in this district?—A. Yes, but you would not think of going to work and doing work in winter which could be done in summer.

Q. Would you not think of doing work in the winter which might have been done or could have been done in summer, if it was there still to be done and you wanted to get through?—A. If the winter was coming on—if the winter was on you, then you might be obliged to do it.

Q. The question of whether it could be done in the summer was not a question with which Mr. Poulin was confronted at all?—A. It was a question which the contractor should be confronted with.

Q. I am dealing with Mr. Poulin, Mr. Richan and Mr. Pearson, the engineers who were responsible for this classification. Those three engineers are the engineers responsible for this classification?—A. Yes.

Q. And I am dealing now with the question, first of all of Mr. Poulin, ordering the work to be done in winter. Now, I say if that work remained there to be done, it was a perfectly proper thing under the circumstances or it might be a proper thing under the circumstances for Mr. Poulin to order it to be done in the winter?—A. He might have ordered it to be done in the winter.

Q. Well, then under your instructions, having ordered it to be done in the winter, under such instructions, the only thing open for him to do, or for the resident engineer to do, in the first place, would be to return the frozen material as loose rock, would it not?—A. You say under my instructions. The only instruction I recollect of for paying for material as loose rock was in the opening up of cuttings.

Q. Your instructions are already in?—A. You are referring to a letter in which it was mentioned that if they forced the contractor to do the work in winter which he would do in summer, he should be paid for loose rock.

Q. Under those instructions the only thing these gentlemen could do was to return it as loose rock, was it not?—A. Yes, if they forced them to do it in winter.

Q. If they ordered them to do it in winter. That is what you mean by forcing them?—A. If they did it.

Q. If they did it in winter?—A. Yes.

Q. It would not be a matter for the engineer, or the division engineer, or the district engineer to consider whether under other circumstances the contractor might have done it in the summer?—A. I cannot answer that.

Q. Do you mean to say that the resident engineer was to be made a judge of whether the contractor was in default or not?—A. The division engineer. Supposing the contractor has had the contract for three or four years, and had not done the light work, but had worked on the heavy work and left the light work for the last, for the winter, then I think the contractor should not get the benefit of it.

Q. The resident or the division engineer would not be a man to do——?—A. The district engineer might have laid out the work for a year or more for the contractor.

Q. If it had been laid out and the contractor had not done it?—A. Yes.

Q. But in a case like this, where you send Mr. Poulin or tell him to get it done, under those conditions you did not expect Mr. Poulin to go into the question of how Mr. Hodgins had laid out the work, did you?—A. I do not know how Hodgins laid it out.

Q. You did not go into it yourself?—A. No.

Q. You struck this frozen material out without ever finding out whether the contractor was in default in the way you have indicated or not?—A. As far as I see, the contractor would be in fault, or Mr. Poulin might be in fault for forcing it to be done afterwards. I know the contract had been let for two or three years prior to the time it was done.

Q. You knew it had not been finished within the contract time?—A. Yes.

Q. There were a great many reasons for that?—A. Yes.

Q. Some of which you knew probably, and perhaps some of which you did not know, or perhaps you knew them all?—A. I knew the difficulty of getting labour was one of the principal questions.

Q. There was a difficulty in getting the plans, was there not? In getting the instructions, so I have been told. They did not get started——?—A. After the contract was let there was no reason why they should not get started.

Q. However, that may be, the circumstances connected with that were no fault of the engineer, where the circumstances with which the resident engineer and the division engineer had to deal, or the district engineer, unless it was shown——? —A. I cannot say that, because I am not positive——

Q. I want to get a clear understanding with you on this. Unless it were shown that the district engineer or one of those three engineers had given the contractor instructions to do a particular work in the summer time, reasonable instructions which might have reasonably been carried out, and it could be shown that the contractor had failed to comply with those instructions, although he might reasonably have complied with them, and that in consequence the contractor was subsequently obliged to do it in the winter. That would be the very outside extent to which these local engineers could have any discretion, wouldn't it?—A. I think so.

Q. You would not say, for instance, that the mere fact that the contractor had not completed his whole contract within the time originally specified, that that would justify the resident, division or district engineer in saying whether they were in default of their contract, and order them to do it in the winter, to do this work and return it as common excavation. That would not be a proper attitude of jurisdiction for the local engineer to assume, would it?—A. I think that would depend on the circumstances of the case.

Q. But the question of default on the part of the contractor in completing his contract is a question for the Commissioners and possibly for the law courts to deal with. Each engineer on the line is not to be a judge of whether the contractor is in fault or not. If the contractor has disobeyed the specific orders of the engineer, then the engineer may perhaps deal with that, but he cannot go into the general question of the man being in default. Is not that reasonable?—A. I think if the contractor had not enough men on the work, or was not pushing the work the engineer would have to make a complaint.

Q. If he is not doing that, the Commission has its remedy under the contract. It can take the work out of his hands or deal with it in various ways; but it is a thing that has nothing to do with classification. It is not right for the engineer to mix up the question of diligence of the work with classification, is it? We would have an intolerable state of affairs under such a system?—A. There would be a limit to that. A man might do all his heavy cutting in the summer time and leave the light work for the winter.

Q. The engineer orders what to do?—A. He should.

Q. He should?—A. He should order him to do the light work in the summer.

Q. If the time is available, unless he orders him to do both light and heavy, he orders him to rush the work through and get it all done in the winter, then he must pay him accordingly?—A. Yes.

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By Mr. Chrysler:

Q. Is not this a little theoretical? We don't know whether that is the explanation of the item or not.

By Mr. Moss:

Q. I don't think it is theoretical at all, in this way. I am going to offer evidence to show that a large part of this was frozen material, done under Mr. Poulin's instructions, because of the necessity of rushing the job through, and I want to show that Mr. Lumsden has not taken that into consideration at all?—A. I am prepared to say that as far as taking frozen material into consideration, I did not.

Q. I want you to go a little further than that, if you can, if you think it is right that you should do so. Look at it this way: Here are these resident engineers against whom this suggestion has been made by you and with whose classification you disagree. You have revised and disagree with the classification of loose rock which you say should have been returned as common excavation?—A. Yes.

Q. Now, we arrive at this point, and I am instructed that it will be shown by evidence that a large part of this loose rock returned is attributable to the fact that the material was frozen when it was taken out?—A. Yes.

Q. And I am asking you as Chief Engineer whether that return of frozen material as loose rock, would not be justified if the engineer's orders to the contractor were to do the work in the winter, and if the necessity for doing the work in the winter arose, from your instructions to Mr. Poulin, to push the work through?—A. I am not prepared to answer it off-hand. I cannot quite understand it.

Q. Perhaps it is too long. I think it is important.

By Mr. Chrysler:

Q. Are there any circumstances which would justify the engineer in paying for material which was common excavation and returning it as loose rock because it was frozen at the time it was moved?—A. I certainly consented to that in the opening of cuts, or in the event of forcing contractors to do work which they could not have done in the summer time.

Q. You use the expression 'forcing.' You mean ordering?—A. Yes, ordering.

By the Chairman:

Q. Supposing you gave orders to Mr. Poulin in that instance to go there and order the work during winter, no matter whether Mr. Poulin knew that the contractor might have been in default, if he was ordered to go there, and rush the work during winter, was it not his duty to report the frozen material as he did, and the question of any extra claim or any claim on the part of the contractor would be left to the Commission, and was not Mr. Poulin in that case justified in reporting the frozen material as he did, leaving to the Commission the question of any claim or any reduction?—A. As far as I can recollect my instructions, I have no recollection of him being told anything on the return, to show that this was classified as loose rock because it was frozen material, but it was simply muskeg, and in that muskeg there is one big percentage of it returned as loose rock.

By Mr. Moss:

Q. You remember you struck out from your printed form the column for frozen material?—A. Yes.

Q. So that there could not be anything in the return?—A. No, except it might be indicated that a percentage had been allowed for being frozen material.

Q. Was that customary?—A. I don't remember it being done.

Q. Did you ever give any instructions that it should be done?—A. No.

Q. This muskeg did not differ in the form of the return from any of the other returned?—A. No. That is the reason I say—when I saw muskeg returned as one-half loose rock, I objected to it.

Q. Without inquiry of course?—A. Without inquiry as far as I know.

By Mr. Chrysler:

Q. In this case loose rock is much more than common excavation?—A. It is nearly twice as much, so it is not returned on the basis of 50 per cent. It might be some other percentage.

The committee rose at 1 p.m.

The committee resumed at 3.30 p.m.

Examination of Mr. Hugh D. Lumsden continued.

By Mr. Moss:

Q. Then, Mr. Lumsden, to turn to page 81 the next station on Mr. Richan's work, is 1837 to 1841, and your note, as printed here, is 'All C.E.'?—A. Yes, borrow pits.

Q. Borrow pits. That is the whole of the note you have is it, 'All C.E.'?—A. That is all I have, 4357 C.E.

Q. You turned it all into C.E.?—A. All into common excavation, yes.

Q. Now, on borrow pits, your method of excavation was the same as it was with cuts, was it, simply looked at them?—A. Yes, in some cases, I have no note to say this has been one of them, you could see that they had been ploughed and scraped.

Q. That there had been ploughing and scraping done in them?—A. Yes, that the material had been moved by ploughing and scraping.

Q. You couldn't tell that all had?—A. You could see that the last of it had been, you could see the marks of the scraper.

Q. Yes, but that would not show there hadn't been other material taken out in other ways?—A. No, it would not.

Q. You can't tell anything about that from recollection?—A. No, I can't.

Q. Then station 1913 to 1931, that is loose rock 6,197, common excavation 6,762?—A. Yes.

Q. That is as returned, and you made a note, 'Muskeg borrow, C.E.'?—A. Yes, common excavation.

Q. That I suppose is another case like the former one, isn't it?—A. Yes.

Q. And what you said in regard to that would apply if that material was taken out when it was frozen?—A. Well, if they had been forced to take it out when it was frozen there may have been some reason for it.

Q. Well, in regard to that question, specific instructions were given by you to Mr. Poulin to rush the 40 miles west of Pacific Junction?—A. I can't tell the date of those instructions.

Q. It was just after Major Hodgins left, and Mr. Poulin went on?—A. My recollection of it is that Mr. Poulin's instructions in the first place were to rush the work, and afterwards to rush a certain amount from the east end, in order to enable them to lay the track as soon as the Grand Trunk Pacific got their rails up to the Junction.

Q. Those were personal instructions?—A. That is my recollection, but I am not sure of the date they were given, it was some time after Mr. Poulin went there, from the east end, 40 miles.

Q. Mr. Poulin would know about that?—A. He would know about that.

Q. And those instructions would include, of course, the right to Mr. Poulin in his discretion to order the taking out of frozen material?—A. If it was necessary and if it couldn't be done otherwise.

Q. If it couldn't be done otherwise. Now, Mr. Lumsden, I am instructed, and you might know, or you might not know, whether it is so or not, that in this country in a great many cuts which were at the ends solid ledge rock there were pockets and

sections of what would be common excavation in summer; might not that more or less be in a frozen condition, separating the first ledge rock from another portion of ledge rock?—A. There may have been that.

Q. Are you aware whether there were or were not such pockets—A. I can't say as to that cut but there were cases of that kind.

Q. I am not speaking of any individual cut now, but there were cases of that kind met with?—A. Yes.

Q. And where cases of that kind were met with you would, I suppose, agree that it is in the discretion of the engineer whether he should order the contractor to stop work and wait for it to thaw out in the summer, or go on and take it out as loose rock and get it through to the other ledge rock which could be taken out most advantageously in the winter?—A. If he could not have done his stripping in in the summer.

Q. But it would not be a case of stripping if there were a deep pocket of that material and another ledge beyond it?—A. Not if it went down, if the cut were 20 or 30 feet deep, and if it went down 15 feet or so in it.

Q. You would not call that stripping?—A. That would be more of a pocket.

Q. And in a case of that kind you would not expect the engineer to stop work, and the contractor to take his plant off and come back in the summer time?—A. But if there were 15 feet in depth of it there would only be 3 or 4 feet of that on the top frozen, if it were a big pocket.

Q. You wouldn't know until you got into it whether it was or not?—A. You would not know the depth of it there until you got into it, you could not tell how much there was.

Q. No. Then that, I think takes us over all the stations mentioned in your statement.

Mr. CHRYSLER.—Well, just a moment, look below and there is a repetition of some sort in the 'illustrations of places where cross-sections showing ledge rock were erroneous,' in District F, some of them may be the same and some of them different, but where the cross-section showing ledge rock is erroneous it is rather an important thing.

Mr. Moss.—Yes, I had overlooked that.

By Mr. Moss:

Q. We have illustrations where cross-sections showing ledge rock were erroneous, and we find there station 627·50 to 638·50, 'Rock 1646 ledge, rock 4266 assembled, loose rock 11290, common excavation 343.' What is your note about that, Mr. Lumsden?—A. '634·25 no assembled R. Station 635·25. Could find no ledge rock as shown on cross-section. 'Dug in places where McHugh said ledge rock north side, but could not find.'

Q. You could find no ledge rock on the north side?—A. Yes, 'Dug in places where McHugh said ledge rock north side, but could not find.' That is the only note I have of that.

Q. What did you do with that measurement, did you reduce it?—A. I have got a query after it; I have made a note, what I have here is '1646 rock,' and the query 'if there'; the words 'if there' are after it as if it were to be remeasured.

Q. Are you aware that the work was actually in process of remeasurement at that time by Mr. McGillivray under Mr. Poulin's direction?—A. I don't recollect it. I know there were some instructions given for it to be remeasured but I don't know that it was under remeasurement at the time we were there.

Q. You don't recollect that?—A. I don't recollect any remeasurement going on at the time.

Q. Well now, you say you dug in the places where McHugh said the ledge rock was on the north side but couldn't find it?—A. Yes.

Q. What places did you dig?—A. I have no record except that it was on the north side—I assume it was.

Q. How deep did you dig?—A. I have no dimensions of the digging.

Q. McHugh was not present while you were digging?—A. I assume he was from the fact the note says, 'Where McHugh said ledge rock north side.'

Q. He had no control over the digging, it wasn't under his direction?—A. I have no recollection of it; all I recollect about it is that we dug where he said it was.

By Mr. Clarke:

Q. What did he say when you couldn't find it there?—A. That is all I can say about it.

By Mr. Moss:

Q. You have no memory of it?—A. No, I don't remember the places.

Q. Station 553·80 to 566, that is an old friend, we have had that before?—A. That is the same one we had the cross-sections of this morning.

Q. What was the matter with the cross-sections there?—A. Simply that we couldn't find assembled rock there.

Q. With the digging?—A. The digging.

Q. With one digging?—A. Yes.

Q. That is to say, you could not find assembled rock in the sides of the slopes?—A. Not in the sides of the slopes, it was in the centre, in the place where we dug there was no assembled rock shown in the sides of the slopes; it was all in the centre.

Q. Then you don't know whether part of that loose rock was taken out in the time of frost or not?—A. I know nothing about the dates.

Q. Did you hear that Richan, as far as that station was concerned, had a fire and had his notes burned?—A. Not Mr. Richan, Mr. McHugh.

Q. Mr. McHugh?—A. Yes, I know that he had his notes burned.

Q. And do you know that he had made up those cross-sections the best he could from memory?—A. I don't recollect hearing that; I don't recollect hearing it, possibly he had done so.

Q. It would be the only thing he could do if he had his notes burned?—A. Of course if he lost all his notes, it would, unless he had a duplicate of them somehow.

Q. That would be the best thing he could do?—A. I don't remember any details of his having made up his notes from memory; I know he had his place burned.

Q. And perhaps that would account for the coincidence in regard to this assembled rock starting at the 11-foot mark?—A. I don't know; I can't say.

Q. Well then, we have again illustrations of points; this is also on Mr. Richan's work, at page 83, 'illustrations of points where engineers did not measure rock, either by cross-sections, or measurements of individual pieces.' And we have station 1503·50 to 1507, rock 435, loose rock 652, and your note of that is, 'Engineer on ground stated solid rock not measured?'—A. Yes.

Q. Do you know whether that was assembled rock or solid rock there?—A. I am under the impression that that is not on Mr. Richan's work; it is, I think, on the other 1500, I will tell you in a moment.

Q. It is this man Pearson, who was one of Mr. Richan's men, wasn't he?—A. 1503·50 to 1507 is not on Richan's work.

Q. I think so, I have it marked?—A. It is away west of there.

Q. Well, who is the resident engineer there? I have it down here as Pearson?—A. I am not positive; I may be able to tell you; certainly, that 1503 that the note refers to is not on Richan's work.

Q. That is not on Richan's work at all?—A. No.

Q. Then we won't bother with that. Then looking at the list which appears on page 83, there are none of those stations on Richan's work, are there? Or is that station 611 his?—A. 611.

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Q. The last item but one on the page, station 611·25 to 619·25, is that on Richan's work?—A. 611·25 to 619·25, rock 3,612.

Q. 3,615 is the way it is printed here?—A. 2,408 loose rock. It appears to be in error; there are three yards I have to add in somewhere; there is an error in the figures and I have a note on that, 'McHugh says this was classified by percentage.'

Q. Mr. McHugh doesn't seem to have been examined before the shorthand writer in regard to that?—A. I merely got that note on the ground.

Q. Do you know what it means? I mean, does it recall the condition there to you at all?—A. No, I don't remember the conditions in that cut; I don't remember the cut at all.

Q. It is not intended as a censure or criticism of McHugh at all because you don't appear to have changed it?—A. There appears to be more rock returned than any other one material.

Q. Well, if it was assembled rock with loose rock and common excavation it might be perfectly proper for McHugh to measure it by percentage, might it?—A. Not unless it was impossible to do anything else.

Q. He would have to be the judge of that?—A. He and Mr. Richan.

Q. You are not prepared to say now that it should not have been?—A. I can't say for that cut, because I dont recollect it.

Q. You can't say whether it was proper or improper; that note was simply a memorandum?—A. A memorandum, it was not made by measurement.

Q. It is a memorandum, not a criticism?—A. I have written above that a note which says, 'Classed all clay as loose rock;' that is a note I have in the note before that, that is referring evidently to the cut or borrow before that.

Q. That he returns all clay as loose rock?—A. That is the note I have here.

Q. You have no recollection whether he said that or not?—A. I can't now remember him saying it; all I know is that I have that note here.

Q. He could not possibly have meant that he classified all clay as loose rock, but all clay at that particular point?—A. I can't say what he meant; I don't remember, I just happen to see the note here.

Q. That would be a reasonable interpretation of it, would it not? I don't suppose an engineer would make a statement that he would return all clay as loose rock?—A. I don't think he would.

Q. You would not expect him to say so, would you? Must not that mean that he returned all the clay as loose rock at that particular point?—A. I can't say what he meant; I don't remember the circumstances at all.

Q. Is there anything in those notes that you have there that you are prepared to say caused you to lose confidence in Mr. McHugh?—A. I simply did not agree with the classification.

Q. You don't agree with the classification, but you are not able to say—did you make any reclassification at this place?—A. On 611·25 I have a note of what my classification of—what I thought it was.

Q. Yes, what was it?—A. 135 yards of rock in boulders, 3,800 yards loose rock and 4,000 yards common.

Q. That gives more total than the other, doesn't it?—A. Just the same.

Q. You can't tell us anything about the principle on which you made this readjustment?—A. Simply by looking at it.

Q. Now, I think that finishes up with Richan, or is there any overbreak in Richan's 1130 to 1126?

By Mr. Chrysler:

Q. There are three stations 2, 3, and 4 there, oh yes, and on the other column beginning at the top of the first column, 1965, right down to the bottom, and 2, 3, and 4 on the second column.—A. I think those are all in the other district, but I will tell you in a moment.

Q. What about this one here, 394 to 394.20?

Mr. Moss.—That is another division.—A. 1414 is in another division, these stations are decreasing in number, and that is the way those other districts went.

By Mr. Moss:

Q. Then, Mr. Lumsden, that takes over all the criticisms you have made of the work on Mr. Richan's division?—A. I think so.

Q. And as far as he is concerned you have told us that there was nothing in his testimony, whatever it is worth, that had anything to do with your losing confidence in him.—A. I don't see anything.

Q. And the only thing you point to is that you did not agree with his classification?—A. I didn't agree with his classification.

Q. And your disagreement arose solely as the result of the visit that you made there during this arbitration?—A. Yes, and on the one cut previously.

Q. The one cut previously?—A. That is the first cut that there was so very much——

Q. And your investigation consisted of the character you have told us, simply walking through and digging these holes in the places indicated?—A. Yes.

Q. You made no measurements?—A. No.

Q. And you had no communication at all with the engineers?—A. Not any more than what I stated in one or two items I have mentioned here.

Q. Now, Mr. Lumsden, supposing that instead of adopting the course which you have seen fit to adopt, of resigning and making these suggestions against the engineers, you had adopted the course of remaining with the Commission and endeavouring to reconstitute your staff to your satisfaction, would you, on that investigation and on that material have felt justified in dismissing Mr. Richan from the service of the Commission?—A. I didn't consider it in that way at all, I didn't—as I seemed to be disagreeing with all of them I came to the conclusion I would resign.

Q. Though you might be wrong and they might be right?—A. Exactly, I chose to resign, at any rate that is what I did.

Q. Of course you involved these gentlemen; I don't want to dwell on it any longer than is necessary, or to put any more stress on it than is necessary, but you saw fit to involve these gentleman, and it is necessary they should be cleared in regard to the matter, it is fair to say you would not have undertaken on such investigation as you had made to dismiss Mr. Richan from the service of the Commissioners or to request his dismissal, would you?—A. I don't suppose I would.

Q. And in the suggestion that you made in putting in your letter of resignation in the terms in which you put it, you did not intend to suggest that he was incompetent or unfit to continue the work he was then doing?—A. I merely said, at least I don't know what I originally said, but by my explanation at the commencement of this investigation I said it was simply a matter of my not agreeing with the classification, it wasn't a matter of losing confidence in their honesty nor in their integrity.

Q. Will you not go as far, in order to clear the matter up, will you not say that it will not involve any expression of opinion that Mr. Richan was incompetent or unfit for the work he was doing?—A. I don't think it did; I did not intend to do so.

Q. Certainly you would not have undertaken to have expressed such an opinion on the investigation you have made up to that time?—A. I don't think so.

Q. It would be too serious a matter on such an investigation as that. Now, would the same thing be true in regard to McHugh?—A. I know nothing about McHugh personally. I simply don't agree with the classification in the same way, and it is the same way with all of the them.

Q. It is the same way with all the engineers?—A. I didn't know enough about them on the work personally to say anything about one of them that I would——

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Q. That you would?—A. That I would say that they were dishonest or that I would not employ them again.

Q. Neither would you say that they were incompetent, I suppose?—A. I would have to think over incompetency, for I don't remember them all.

Q. I beg pardon?—A. I would have to think over that. I don't know of any of them that I would say were incompetent; one or two I might not want to have again.

Q. You had not that in your mind at any rate when you framed your letter of resignation?—A. No, I did not.

Q. And of course you have told us more than once that there was no idea in your mind of any question of fraud or dishonesty or anything of that sort?—A. No. I did not put it that way.

Q. Do you recollect that Mr. Poulin asked to see a copy of his depositions as taken by the shorthand writer?—A. Yes, I think I do.

Q. And that he looked them over and said they were incorrect in some particulars?—A. I forget——

Q. And afterwards made corrections?—A. I remember his asking to see them. I don't remember much about corrections.

Q. He did, as a matter of fact, I understand?—A. Well, I don't recollect about that.

Q. At any rate it was an uncorrected copy that you put in?—A. It was all I had that I put in.

Q. It was what you got originally?—A. It was what I got originally.

Q. And you made no corrections, in fact, to correspond to any of the corrections he made?—A. I don't recollect the corrections, but I remember him asking for a copy of the evidence.

Q. In regard to Mr. Poulin—for he and Mr. Doucet are the men immediately responsible to you—is there anything in his evidence as taken before the arbitrators that you would criticise?—A. (After reading to himself Mr. Poulin's evidence as printed on page 104 of proceedings) I have read it over.

Q. Do you see anything there that you would specify as having caused you to lose confidence in Mr. Poulin?—A. I don't think he should have given instructions about 50 per cent clay and 50 per cent rock, if he did so—where 50 per cent clay should be classified as loose rock.

Q. That is on page 104, is it?—A. Yes; it is this:—

> 'Q. Did you, on any occasion, give instructions to any of your engineers to classify borrow pits of clay, which were ploughed by teams of four or six horses, as loose rock?—A. I gave instructions to my division engineer on that portion near Wabigoon river, not to classify borrow pits. which were ploughed by four or six horses, but I went over that portion of the work, and every time I went there there were eight horses, and sometimes I saw six. The men that had been taken down there from the west were threatening to leave the work if some of them did not get loose rock. After discussions with division and resident engineers we came to the agreement that it would be fair to allow them 50 per cent of common and 50 per cent of loose rock in those borrow pits.'

Q. Is there any other point?—A. I did not agree with the classification, and I did not agree with him regarding the amount of overbreak; but of course that was general.

Q. There was nothing particularly in this evidence?—A. No.

Q. As to that question of percentage of clay in borrow pits, in the first place that would not be a large matter, would it? There would not be very much of that?—A. Well, there was quite a lot of it; from memory, I don't know what it would amount to.

Q. Then what would your idea be, where material is in fact taken out, or part

of it is taken out, by ploughing with four or six horses, as the case may be, and it is not found possible by the contractor to take it out in a workmanlike way—where they cannot get proper furrow, where the plough won't bite in more than two or three inches—do you consider that that ought to be returned as common excavation?—A. I say the specification should say what depth the plough should go if it can be ploughed, and scraped with four horses in a reasonable way.

Q. But is there not a reasonable way, as a matter of practical experience, as to what constitutes reasonable ploughing or what does not?—A. I don't know what depth of furrow you would consider a reasonable depth.

Q. You never considered that at all?—A. I never considered that.

Q. Certainly you would not consider a furrow a couple of inches deep as reasonable?—A. If that is all they could plough.

Q. If that was the depth they could get?—A. That would be very hard ploughing.

Q. That would not be commercial ploughing?—A. No.

Q. Supposing that in order to rush the work, and possibly because the amount to be done was not very large, as a matter of convenience, they put that through with ploughs, ploughing in that way, it would not be fair to the contractor to pay him only common excavation for that?—A. Not if he could not plough any deeper, but I can only say from what I saw of the ploughing there.

Q. You did not see the ploughs in actual operation?—A. Yes, I did.

Q. When?—A. On the first trip there.

Q. Where did you see them in actual operation?—A. I can give you the station and the cutting.

Q. You have a note of that, have you?—A. I have a note in my note-book. (Examining note-book.) This is in June, 1908: 'Left McIntosh's camp 7; walked up cut at station 3830'—I don't know whether that is among these (in printed list) or not—' then along line to Wabagoon river, across this easterly over river to 3777. Can't see how anything but common excavation is allowed in clay cuts. 3788 has twelve teams with wheel scrapers, and a four-horse team ploughing, and easily keeping them going.'

Q. How long did they go on ploughing after you saw them?—A. What ploughing?

Q. How long were you there?—A. I probably did not see them more than a quarter of an hour altogether. I walked down a little bit beyond, to the end of the dump and back. I will read the whole notes: 'And easily keeping them going other than ledge rock'—there was ledge rock, I may say, in the west end of that cut—' there seems to be no boulders, or only in a quarter on the east about station 3786.' That is the note I personally had about that cut.

Q. How deep in had they got in the cut at that time?—A. Pretty well towards the bottom of it. In fact, they were at the bottom in the lower end of it. They were taking out the open on the grade down towards the eastward, towards where the fill was.

Q. They were ploughing down hill?—A. Yes, slightly down hill.

Q. Do you know how long after you were there they went on ploughing that?—A. I can't tell you.

Q. Did you have any discussion with anybody?—A. I spoke to the engineer on the ground then.

Q. Who was the engineer?—A. I think it was Mr. Miller.

Q. Would you look up, Mr. Lumsden, and see what your note of that cutting is on the arbitration trip?—A. 3784 plus 20 to 3796 plus 62; rock, 3636; overbreak, 888; loose rock, 9,720; common excavation, 6,750.

By Mr. Chrysler:

Q. Is that overbreak included with the rock?—A. I have not got a note whether that in this case included the rock or not.

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By Mr. Moss:

Q. In whose division is that? Is that in division No. 6?—A. Yes, I think it is 6. It is what was McIntosh's division at one time.

Q. Then what did you do with that? Did you reclassify it? Those are the returns?—A. This is what I have got down: Rock, 3,924; loose rock, 720; common excavation, 16,650.

Q. How is it, Mr. Lumsden, that that does not appear to have been protested by the Grand Trunk?—A. No, I see it has not.

Q. And it is not mentioned by you as one——?A. No, I have not.

Q. Well, I should have supposed that if it was as you say——?—A. Well, it is as I say, but I mean to say I may have overlooked putting——

Q. If it impressed you, you would have mentioned that as one of your items? —A. No, I don't appear to have mentioned that one, but I happen to have that note.

Q. Then if it turns out to be a fact that the ploughing there did not turn out to be practicable and the horses had to be taken out shortly, your criticism would not be correct, would it?—A. Well, as far as I saw I was correct, I am satisfied, I can't tell what might have happened afterwards, or before.

Q. But when you went back on the arbitration you made no inquiries about that?—A. Not at that time. The cut was out.

Q. But you made no inquiries at that time as to how much ploughing was done? —A. No.

Q. Would not that have been a reasonable precaution to have taken?—A. Well, as I say the cut was pretty well on at the time I saw it. In fact the upper end of the western end where they were working, in places they were touching the rock at the very upper end.

Q. But you did not make any inquiry as to how much of it had been ploughed previous to that?—A. No, but at that time the work was comparatively fresh. You could see where the plough was through.

By Mr. Macdonald:

Q. Who was the inspecting engineer for the Grand Trunk?—A. A man named Mann.

Q. But he made no complaint about this particularly?—A. Not that I know. I don't know if that is a Grand Trunk complaint or not.

By Mr. Moss:

Q. I would like you to be sure of that, if it is in the Return, page 9 (Sess. papers No. 42a)?—A. No, I don't see it here. 3784 plus 20 to 3796.

By Mr. Chrysler:

Q. It is covered by the general claim there of 3701 to 3800?—A. Oh, yes, that is a fact.

Q. 71, 72 cuts, borrows, &c.?—A. Yes. I didn't notice it included in that.

Q. They could not miss much there; he has taken a hundred stations right in one?—A. Well, that takes over a lot of borrow pits that are west of the river, at least I presume so.

Q. That is 71, 72 means miles; that is 2 miles from 71, 72?—A. Yes.

Q. Then the next item is mile 73?—A. 3800 to 3850.

By Mr. Moss:

Q. Well, then Mr. Lumsden, I was asking you in case you had a cut where ploughing was more than ordinarily difficult and they were not able to get the plough in to get a proper furrow within any decent distance, and they found that the plough

used up the contractor's horses very rapidly, you would not call that ploughing in an ordinary fair manner, would you?—A. Well, without knowing all the circumstances, it is very hard for me to give you an opinion.

Q. The point is this: The fact that the spot was ploughed, while it would make out a prima facie case, so to speak, for its being common excavation, would not be conclusive?—A. No, but you might have only a very small portion of the ploughing that might be as hard as that. The rest might be all easy enough.

Q. Or you might have only a small portion easy and the rest might be hard?—A. It might.

Q. It is fair to say that the fact that the thing was ploughed—A. That is what the specification says—is ploughing and scraping.

Q. No, it says ploughed—A. With a team of six horses properly handled.

Q. That must mean ploughed in an ordinary manner?—A. Yes, I think it means that you could not take an inch.

Q. Let us not waste time over it, for I don't think there is anything between us. The fact that the cut was taken out, or part of it was taken out by the use of the plough, in itself would not be conclusive as to classification, although it would no doubt raise the prima facie idea that it should become common excavation?—A. Yes.

Q. And if it was uncommonly hard and was taken out with extreme difficulty, it would be proper to allow it as loose rock although it had been taken out with a plough; that would be a matter for the honest opinion of the engineer, wouldn't it?—A. I think so. I think there might be latitude in that way.

By Mr. Macdonald:

Q. In regard to that particular cut, it does not appear that that particular cut was specially mentioned?—A. It is included.

Q. But there is a general relation to the general statement of cuts and everything?—A. It is not specially mentioned?

Mr. Moss.—No, there are a hundred stations mentioned.

By Mr. Chrysler:

Q. I wanted to get this a little more exactly by reverting to the specification itself, and seeing if you would have applied the correct test. What it says is that the loose rock is such as may be, whether in situ or otherwise, may be removed by hand, pick, or bar; that, I understand is one test for the loose rock?—A. Yes.

Q. Then, 'all cemented gravel, indurated clay and other materials, that cannot, in the judgment of the engineer be ploughed with a 10-inch grading plough, behind a team of six good horses, properly handled'; now, the test of ploughing applies to cemented gravel, indurated clay and other similar material?—A. Yes.

Q. And the question is not how it was removed in fact, but whether in the judgment of the engineer it can be removed?

Mr. Moss.—Best removed.

Mr. Chrysler.—Not best; 'Cannot, in the judgment of the engineer, be ploughed with a 10-inch grading plough'; Is that the right construction of that?—A. Yes.

Q. It is a question for the judgment of the engineer as to the hardness of the material; it does not depend upon how the contractor in fact removes it; in exercising the judgment of the engineer, does that mean ploughed in the ordinary course of good workmanship? That is really involved in Mr. Moss' question. Is it in the judgment of the engineer the proper way to handle that material; is not that the question?—A. I don't think you could say that, because a great deal of the material, in many of those cases, there was no attempt made to plough it, because they were taking it out of the face, and they could only rely on the judgment of the engineer whether it could have been ploughed.

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Q. That is the test; it is not whether they did use the plough or not?—A. No. In a great many places they did not attempt to use the plough.

Q. If it was so hard that it would not be a proper way of going about it, then, it should be classified as loose rock?—A. Yes.

Q. And if they removed it by other means, if in the judgment of the engineer it might properly be removed by a plough drawn by six horses, then it is common excavation?—A. Yes.

Q. Then with regard to this particular place, upon what did you rest your decision in reducing the 9,000 yards of loose rock to common excavation?—A. Simply from what I saw.

Q. What you saw when you went there in 1909 was the ploughed cutting?—A. Yes.

Q. Then you relied on your observation for the short period that you were present when the work was going on in June, 1908?—A. Yes.

By Mr. Moss:

Q. Then, Mr. Lumsden, Mr. Clarke has been good enough to call my attention to an item on page 81 in District 'F,' at the foot of that second assemblage of details; Station 3497, 3 borrow pits?—A. Yes.

Q. Loose rock, 34,575; common excavation, 30,750?—A. Yes.

Q. Your note on that as printed here is 'Ploughed and scraped'; have you anything else about that?—A. I have 'Ploughed and scraped,' and I have also got '64,855 yards of C.E.' That is what I have got down.

By Mr. Chrysler:

Q. That is the amount which is allowed here for loose rock, 34,575; that is probably what it is intended for?—A. 34,575 and 30,750.

Q. Then in that case you reduced the loose to common excavation.

By Mr. Moss:

Q. Then what did you rely on there? You say it was ploughed and scraped; how do you know that? By the appearance?—A. That individual place I can't say. I believe we asked somebody who was there, how it was taken out. I can't say positively as to that place.

Q. You don't remember whether you asked the engineer or not?—A. No, I have simply got the note, 'Ploughed and scraped.'

Q. You can't tell what that means?—A. No.

By Mr. Clarke:

Q. It was not from your own observation?—A. There were some places you could tell it had been ploughed and scraped, because you could still see the marks in the ground where the scraper had been working.

Q. What I mean is, you would not have seen it actually ploughed?—A. No, I didn't see it ploughed. The only actual ploughing is what I saw actually on the cutting I referred to in June, 1908, ploughed.

By Mr. Moss:

Q. Well, Mr. Lumsden, you could not tell at all by looking at the appearance of the borrow pit whether it had been ploughed and scraped or not?—A. I could not tell what the top might have been.

By Mr. Chrysler:

Q. Nor could you tell whether it had been ploughed by a team of 8 horses instead of a team of 6?—A. No.

By Mr. Clarke:

Q. Is it not likely it would be more than 6 horses if it was ploughed?—A. I think the evidence of most of the engineers—I cannot say as to that particular spot—was that very few of them were more than 4, but some of them were 6.

By Mr. Moss:

Q. As a matter of fact, it is very seldom you can handle 6 horses?—A. It is very hard work to handle six horses.

Q. You have spoken about Mr. Poulin, and you said that he ought not to have made that arrangement to allow the contractors fifty per cent common and fifty per cent loose rock?—A. Not in all clay borrow pits.

Q. He did not allow it in all clay borrow pits?—A. In a certain stretch which I think includes that mileage that is given here.

Q. From what you have said I gather that you would not condemn that practice in all cases. It might be a very proper thing to do in a clay borrow pit where unusual difficulty in ploughing was met with such as we have described, but it yet proved more expeditious to take it out with the plough? In such a case you would not say it was an improper thing to have an understanding with the contractor that you would allow fifty per cent common and fifty per cent loose?—A. You would want to see the work done first. The work would have to be done first. You can't tell what—it would be an uncertainty as to how he could plough. An arrangement should not be made beforehand to allow him fifty per cent of loose rock in a clay borrow pit.

Q. The evidence does not show that the arrangement was made beforehand. The evidence shows they had been taking some of this stuff out and returning it as common excavation, and the contractors were kicking and threatened to quit work. Then Mr. Poulin looked into it and said: 'Well, I think that is not fair. I will allow fifty per cent of that as common and fifty per cent as loose rock?'—A. I don't quite see that it is in accordance with the specification to do so.

Q. It would be if the ploughing had been conducted under what Mr. Chrysler spoke of as ordinary conditions?—A. If it was exceedingly hard stuff and the plough would only go in two inches there would be something in that, but I take it this was an arrangement by which they allowed fifty per cent on clay borrowings and cuttings.

Q. Did you ever inquire as to what the arrangement was, because you seem to have let it go on Mr. Schreiber's question? You didn't take it up and go into it any more yourself?—A. I am under the impression without looking up the evidence——

Q. You did not ask Mr. Poulin any questions I think. He seems to have been torn first by Mr. Schreiber and then by Mr. Kelliher. Then that constitutes apparently the only item in the evidence in regard to which you would criticise Mr. Poulin at all, apart from the general one of disagreement with his classification?—A. The overbreak is another matter.

Q. What did you say about that overbreak?—A. Well, I thought there was a great deal of overbreak allowed that should not have been. That is all I can say about it.

Q. That is a matter of judgment?—A. A matter of judgment and measurement.

Q. Well, of course, Mr. Poulin would be right as to the measurements. You took no measurements?—A. No, but I mean the measurement of the amount that should not be paid for.

Q. It is a matter of measurement of the amount that should not be paid for?—A. Yes.

Q. You seem to have thrown it out without any arbitration?—A. Sometimes.

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Q. Well, every time didn't you? You never took any measurements?—A. No. Never took any measurements. Sometimes we had the measurements of all the overbreak. Sometimes we threw it all out and then we had the measurements. Other times we had not and we only threw out part of it.

Q. Just jumped at it.—A. Yes.

Q. Where you threw all the overbreak out you reduced the thing down to the theoretical prism, didn't you, to any amount as shown by the theoretical prism?—A. Yes.

Q. Can a contractor ever take rock or any material out to the exact prism?—A. He cannot take rock out to the exact prism but he takes his contract with that understanding; he is not to be paid for the outside of the slopes.

Q. If it arises from unavoidable causes?—A. Unless it arises from slips or slides.

Q. That is your idea at any rate in regard to that. Then as to Mr. Poulin, I think you told us that you had a great many years acquaintance with him?—A. Yes.

Q. And you had a very high opinion of his experience and ability as an engineer?—A. Yes.

Q. He was personally recommended by you for the position?—A. Yes.

Q. And but for this divergence of opinion you would have no complaint to make in regard to him?—A. No.

Q. And you would say the same thing in regard to him that you said in regard to Mr. Richan: that if it had been a question of your remaining on you would not have thought of asking for Mr. Poulin's discharge?—A. No.

Q. May we say the same thing about the other engineers that are mentioned here in the evidence that was taken? For instance, Mr. Phillips, do you remember him or do you know him?—A. I don't know anything about the others. Some of them I know and some of them I do not know.

Q. Do you remember Phillips?—A. I don't remember him very well.

Q. Is there anything in his evidence?—A. I don't recollect anything.

Q. You would not have had him marked out for dismissal?—A. I don't recollect the evidence of Mr. Phillips or several of them up there at all. (After reading printed depositions taken by the arbitrators). I can't see much about Mr. Phillips.

Q. It is pretty hard to make head or tail of his evidence. It seems to have been pretty badly taken. You don't find anything there that would have led you to suggest Mr. Phillips' discharge if you had kept on as Chief Engineer?—A. Well, I do not—he does not seem to be admitting measuring rock in boulders, to have started to have measured solid rock in boulders in the first instance.

Q. You are not able to say, of course, whether this evidence of Phillips is correctly transcribed or not?—A. I can't say now whether it is or not.

Q. It is pretty hard to make head or tail of it, it seems to have been badly pieced together. I find it very hard to understand a great deal of it. Have you any recollection of Phillips prior to this?—A. No, I don't know whether I would know him if I saw him.

Q. You certainly would not undertake, I suppose, to criticise a man from memory on a record of this character taken in the way in which it was taken?—A. I judge from this evidence as it is here that they must have guessed at the assembled rock without taking the percentages previously made of rock.

Q. Well now——A. That is all I can gather.

Q. You are just guessing at what this means?—A. I am guessing at what that means.

Q. It is not intelligible?—A. That is all I can make out of it.

Q. It is not clear and perhaps we had better have Mr. Phillips here and see what he did mean. What do you say about Mr. Millar, have you looked over his evidence? Can you tell whether his evidence was correctly transcribed or not?—A. (After reading depositions). I have read that over.

Q. Can you say whether that was correctly taken down or not?—A. I can't say whether it is correct, it is impossible for me to do so.

Q. You don't know whether it is correct or not?—A. I cannot be positive that it is correct.

Q. It is not very easy to understand is it? Assuming that it was correctly transcribed, what would you say about it?—A. Well, I don't agree with the classification.

Q. In what respects?—A. Where he——

Q. Look at the foot of page 100 of the printed proceedings of this committee.—A. (Reads): 'In borrow pit 3499 to 3517, 34,575 yards of loose rock, and 32,280 yards of common excavation, making a total of 96,855 cubic yards'——

Q. That cannot be right, the total?—A. 34,000 and 32,000? It ought to be 66,000.

Q. It should be 66,000?—A. 66,000. Well, he said the borrow pit was ploughed, and then he says 'At times there were four and sometimes as many as eight.' That is horses. (Reads):—

Q. Did you ever see eight?—A. No, I have never seen eight, I have seen six.

Then Mr. Schreiber asks:

Q. Did you ever see more than six horses on a plough?—A. No, sir.

Q. That is what I think has been improperly transcribed.—A. That may be. If it was ploughed by six horses or less there surely should not have been one half of it loose rock.

Q. Now turn to page 101. (Reads):—

Q. Please answer the question. How did you arrive at the classification?—A. Judging the manner in which horses were able to handle it.

Q. Did not six horses handle it?—A. They did.

Mr. Schreiber seems to have thought that settled the question, the fact that six horses managed to handle it. This would be the same borrow pit as Mr. Poulin was dealing with, wouldn't it?—A. In the same neighbourhood. I think the neighbourhood of Wabigoon.

Q. And what you have said about those would apply to this I suppose; if the work was extraordinary difficult by plough it would be reasonable to allow some loose rock?—A. For the proportion of it that was so difficult.

Q. The portion of it that was so difficult you would allow as loose rock, and the portion that was easy you would allow as common excavation?—A. I think it would have to be in exceptional cases. That is, you have got to have some standard of hardness to which you can go.

Q. It would depend upon the circumstances, I suppose?—A. It would depend upon the judgment of the engineer

Q. It would come back to that?—A. Yes.

Q. Perhaps we had better defer consideration of that until we hear from Mr. Poulin and Mr. Millar what the circumstances were. What about Bell? You don't know whether Bell was properly reported or not?—A. No, I can't say. There is no objection that I can see.

Q. Then as far as Bourgeois is concerned?—A. As to Bourgeois, I have more hesitation about him than any one.

Q. As far as Bourgeois is concerned I am informed he protested against his examination. He was not familiar enough with English to be examined in that tongue and asked to be examined in French, Mr. Schreiber told him he must go ahead and be examined in English?—A. I believe he did ask to be examined in French.

Q. And Mr. Schreiber would not let him? Is not that correct?—A. I think so. I don't think any one of the three of us understood French.

Q. There were lots of people there that did understand French?—A. I suppose so.

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Q. It would not be fair to judge him at all by that examination?—A. Well, it mightn't, although I must say I think he understood English thoroughly.

Mr. MacDonald.—Bourgeois has left the service.

Mr. Moss.—Then we need not take up time with him.

By Mr. Moss:

Q. Now, you have not made any charge against Mr. Doucet, any specific charge?—A. No.

Q. And you do not now make any suggestion that he was not thoroughly competent and capable of handling the work?—A. No.

Q. Now, with regard to all these men, it simply comes down to this: There was a difference of opinion between you and the two district engineers, Mr. Doucet and Mr. Poulin, in regard to certain questions of classification, and after they were started up and their instructions were followed by their subordinate engineers, you, finding that to be the position and thinking that their understanding of your instructions was not what you had intended, thought that the proper course was for you to resign?—A. That is what I did.

Q. And you adopted that course?—A. Yes.

Q. And whether or not their interpretation of your instructions, or what you thought your instructions meant, is right, is a matter of opinion?—A. I think I was right. They think they are right I suppose.

Q. And I suppose you will agree, at any rate, that you did not make your interpretation so clear that there was not room for a difference of opinion?—A. Oh, yes.

Q. I just want to ask you one or two questions in regard to these letters of Mr. Poulin and Mr. Doucet immediately succeeding the arbitration. Mr. Poulin in his letter protests as to the arbitration, and as I will be asking him to come and give evidence along the lines of this letter, I would like to take you over it and see what you have to say about it. It reads as follows:—

Exhibit No. 73.

Ottawa, June 22, 1909.

Hon. S. N. Parent,
Chairman, T. C. Ry. Com'n.,
Ottawa.

Dear Sir,—I have the honour to submit to your board a report concerning the inspection of the work of construction and attempted reclassification by the inspectors, Messrs. Schreiber, Kelliher, and our chief engineer, Mr. Lumsden, from Lake Superior Junction to ten miles west of Rennie, a distance of about 195 miles, such inspection having taken place from Friday evening, May 21, to Saturday evening, June 5 of this year.

I do not know of what nature the reports of said inspectors may be; but as district engineer in charge, I must protest against the manner in which such inspection was made as being altogther inadequate and too superficial to form a correct idea of what the material was like at the time the work was done.

I accompanied the inspectors the whole day, but having been advised that there was to be no argument, I kept at a respectful distance. In two instances when Mr. Mann, of the G.T.P., was passing some comments on the work, I attempted to explain and give reasons and arguments; but I was made to feel it would not be tolerated. At the same time Mr. Mann was allowed to pass comments all along the work, while I was never asked for an explanation until we had reached Winnipeg. On Friday evening, May 21, we passed over a portion of the 11 miles built by the G.T.P. from the new Lake Superior Junction to Sioux Lookout crossing, about 6 miles, passing through the cuts slowly in the car while I read the quantities returned in the estimate for each cut such as

returned to me by the G.T.P. On Saturday we reached the east end of the McArthur Co.'s contract about ten o'clock a.m., having stopped three or four times along the five miles, and reached the end of the tenth mile of the McArthur contract.

On Saturday the 23rd we went back to examine the first cut and then went as far as the end of the steel at mile 13. On Monday we walked to mile 25, on Tuesday, May 25, we reached mile 39 and drove in to mile 43, Good Lake, to divisional headquarters. Divisional Engineer Richan and Messrs McHugh and Philips accompanied us and read quantities and showed cross-sections whenever they were wanted. The only question asked me by Mr. Schreiber about the work was, how I would return a certain portion of one cut. On my answering 'assembled rock,' he answered, 'You are wrong; the Chief Engineer meant there should be at least 80 per cent of large masses of rock.' I said nothing, but wondered how he knew so well the meaning of that which the Chief Engineer had apparently in his mind, but did not say in the interpretation given to us. On the 26th we drove back to mile 39 and walked and drove to mile 52. Next day to mile 62, and so on until we reached Winnipeg river, mile 135, which had been covered partly on foot and partly driving, averaging a distance of 12 to 13 miles per day.

The arbitrators asked for the quantities from the resident or divisional engineers; they walked through the rock cuts, sometimes had small diggings made in the slopes of mixed material cuts, walked outside of some of the rock cuts, then Mr. Kelliher and Mr. Lumsden would take their notes. Mr. Schreiber did not take notes, but at different times suggested notes to be taken of certain amounts of overbreak or waste in cutting without knowing or even asking the reason of its having been done. The balance of the forty-five miles was gone over in two and a half days.

I humbly maintain that, though there might be a few points which may need to be looked into and possibly readjusted on some residencies and of which I have taken notes, that from a superficial examination such as has been done by the three arbitrators at the end of May and beginning of June, when the best and driest of weather had prevailed for nearly six weeks, that when after the greater portion of the cutting and country adjoining had been drained for a period of one year or more, that notwithstanding the ability and experience of these gentlemen, the difference of conditions and state of materials as it appeared in the slope of the cuttings and what it was when taken out make it impossible for them to form a just and correct idea, and that it is unfair and unjust to attempt to reclassify work and pass a final judgment on such a superficial examination for data. Moreover, the whole matter seems to rest on a different interpretation made by our engineers and those of the G.T.P. on the Transcontinental (but not on the G.T.P. work) not only of the specification, but also as to the real meaning of the letter and diagram given to us by the Chief Engineer in his instructions of January, 1908.

I assumed charge of District 'F' in October, 1907. The date of the completion of the contract was passed. I was instructed by your board, through the Chief Enginer and the assistant chief engineer, to rush the work to completion. I gave instructions to that effect and also to classify the work according to the state and condition the material was in at the time it was taken out, and I consider I acted not only within the spirit, but also strictly within the letter of the specification and the special interpretation given out to us by the Chief Engineer on January 19, 1908.

S. R. POULIN,
District Engineer.

In this letter he says:—

DEAR SIR,—I have the honour to submit to your board a report concerning Mr. LUMSDEN.

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the work of construction, and attempted re-classification by the inspectors, Messrs. Schreiber, Kelliher, and our Chief Engineer, Mr. Lumsden, from Lake Superior Junction to ten miles west of Rennie, a distance of about 195 miles, such inspection having taken place from Friday evening, May 21 to Saturday evening, June 5 of this year.

I do not know of what nature reports of said inspectors may be; but as district engineer in charge, I must protest against the manner in which such inspection was made, as being altogether inadequate and too superficial to form a correct idea of what the material was like, at the time the work was done. Is that correct?

A. I don't recollect the circumstances.

Q. I think you told us already that it was intimated to Mr. Poulin, that he was not wanted to interfere, that the engineers were not allowed to say anything?—A. There was to be no discussion on the work.

Q. That was the scheme?—A. Yes.

Q. How did it come that Mr. Mann was allowed to pass comments?—A. Mr. Mann in some instances furnished us with quantities, if I recollect rightly, that is, the engineers on the work, in one or two instances; there was something missing, and Mr. Mann had the quantities, and they afterwards confirmed them.

(Reads)—'I accompanied the inspectors the whole day, but having been advised there was to be no argument, I kept at a respectful distance. In two instances when Mr. Mann of the Grand Trunk Pacific was passing some comments on the work, I attempted to explain and give reasons and arguments, but I was made to feel that it would not be tolerated. At the same time Mr. Mann was allowed to pass comments all along the work, while I was never asked for an explanation until we had reached Winnipeg.' That is correct?—A. Mr. Kelliher was frequently asking Mr. Mann questions.

Q. Without protest from you?—A. I don't remember any protest.

By Mr. Smith:

Q. Are all those depositions of the engineers before the arbitrators deemed to form part of the evidence before this committee?

The CHAIRMAN.—No, it was decided they were to be referred to only.

Mr. SMITH.—You have been reading from this letter, and I don't think the stenographer has taken it down as it has been read.

Mr. MOSS.—I have put the whole letter in evidence.

Q. You told us that Mr. Mann was making comments?—A. Mr. Kelliher was frequently asking Mr. Mann questions about the work.

Mr. Mann was not on the work when it was under inspection. He was general engineer for the Grand Trunk Pacific?—A. He had been over it a great many times.

Q. (Reads)—

On Friday evening, May 21st, we passed over a portion of the eleven miles built by the Grand Trunk Pacific from the new Lake Superior Junction to Sioux Lookout Crossing, about six miles, passing through the cuts slowly in the car, while I read the quantities returned in the estimates for each cut, such as returned to me by the Grand Trunk Pacific. On Saturday we reached the east end of the McArthur Company's contract about 10 o'clock a.m., having stopped three or four times along the five miles, and reached the end of the tenth mile of the McArthur 'Contract.' Is that a correct recital of what took place?—A. I

thought it was the same day we went down the McArthur work. Oh, he says 'a portion of the eleven miles.' I knew we went over part of it.

Q. About six miles?—A. Yes.

Q. Then that is correct, that statement of what happened?—A. Yes.

Q. (Reads)—

On Saturday the 23rd we went back to examine the first cut and then went as far as the end of the steel at mile thirteen'——A. Sunday was the 23rd.

Q. Yes. (Reads)—

On Monday we walked to mile 25. On Tuesday, May 25th, we reached mile 38 and drove in to mile 43, Good Lake to divisional headquarters. Divisional engineer Richan, and Messrs. McHugh and Phillips, accompanied us and read quantities and showed cross-sections whenever they were wanted. The only question asked me by Mr. Schreiber was, how I would return a certain portion of one cut. On my answering 'assembled rock' he answered, 'you are wrong, the Chief Engineer meant there should be at least 80 per cent of large masses of rock.' I said nothing but wondered how he knew so well the meaning of that which the Chief Engineer had in his mind, but did not say in the interpretation given to us.' What do you say about that?

A. I did not hear that. In fact, I never heard 80 per cent mentioned until yesterday or the day before. It was mentioned here.

Q. (Reads).

'On the 26th we drove back to mile 39 and walked and drove to mile 52. Next day to mile 62 and so on until we reached Winnipeg river, mile 135, which had been covered partly on foot and partly driving, averaging a distance of twelve to thirteen miles per day.' That is substantially accurate?—A. I think so.

Q. (Reads).

The arbitrators asked for the quantities from the residential or divisional engineers, they walked through the rock cuts, sometimes had small diggings made in the slopes of mixed material cuts, walked outside of some of the rock cuts, then Mr. Kelliher and Mr. Lumsden would take their notes. Mr. Schreiber did not take notes, but at different times suggested notes to be taken of certain amounts of overbreak or waste in cutting without knowing or even asking the reason of its having been done. The balance of the 45 miles was gone over in two and a half days.' Is that a correct description of the proceeding?—A. I think so.

Q. (Reads).

'I humbly maintain that, though there might be a few points which might need to be looked into and possibly be readjusted on some residences, and of which I have taken notes, that from a superficial examination, such as has been done by the three arbitrators at the end of May and the beginning of June when the best and driest of weather has prevailed for nearly six weeks, that when after the greater portion of the cutting and country adjoining had been drained for a period of one year or more, that notwithstanding the ability and experience of these gentlemen, the difference of conditions and state of materials as it appeared in the slope of the cuttings, and what it was when taken out, make it possible for them to form a just and correct idea and that it is unfair and unjust to attempt to re-classify work and pass a final judgment on such a superficial examination data. Moreover the whole matter seems to rest on a different interpretation made by our enginers than those of the G.T.P. on the Transcontinental (but not on the G.T.P. work), not only of the specification, but also as to the real meaning of the letter and diagram given to us by the Chief Engineer, in his in-

structions of January, 1908.' What do you say about that?—A. I do not agree with it.

Q. You think it is perfectly competent to re-classify this road in the way you have done?—A. I think I formed a judgment that would warrant me in doing as I did.

Q. You re-classified it?—A. I resigned my position. I can give you my reason for resigning my position. I did so because I could not agree with the classification.

Q. You resigned your position after you had completed your arbitration expedition?—A. Not after we had completed our arbitration.

Q. After you had completed your ruling upon the major part of the work, you had passed upon it; you completed the whole of that inspection?—A. Yes, but I never went into the quantities in the arbitration.

Q. Your arbitration work was complete except as to a few cuts, which were left for further consideration?—A. Certain cuts I had made up my mind on.

Q. A large number?—A. A large number.

Q. You had made up your mind and agreed with Mr. Kelliher?—A. Yes.

Q. And with Mr. Schreiber?—A. Yes.

Q. And there would have been no further investigation into those?—A. I don't know. In some of them there might have been.

Q. You don't seem to have made any memorandum to guide you as to making any further investigation. I don't see how you could have told, because you don't seem to have remembered anything about that.—A. I don't remember much of individual cuts now.

Q. It is not so very long ago?—A. It is getting on to a year ago.

Q. Do you or do you not think that that trip furnished sufficient data, as Mr. Poulin puts it, to justify a re-classification of the work?—A. I think from what I know now, that if I was doing it again I would get fuller information on the ground.

Q. Very much fuller?—A. Well, I would.

Q. If you were doing it again you would take a different procedure; you would examine the engineers more fully on the ground?—A. That is what I mean.

Q. And investigate into the reasons for the different classifications. Anything that struck you as requiring explanation, you would ask for an explanation on the spot? Is that so?—A. To a certain extent that is so.

Q. In other words, if you were doing it again, you would conduct it or see that it was conducted somewhat more sympathetically with the work; that is to say, you would not allow the Board to maintain such a remote attitude towards those in charge of the work and you would get more in touch with them and find out what they had been working in their minds and what they had been doing?—A. I think it would be better if we had done so. I say that.

Q. Then Mr. Poulin goes on stating that he assumed charge of District 'F' in October, 1907?—A. Yes.

Q. He goes on as follows (reads):

> I assumed charge of District 'F' in October, 1907. The date of the completion of the contract was passed. I was instructed by your Board through the chief engineer and the assistant chief engineer to rush the work to completion. I gave instructions to that effect and also to classify the work according to the state and conditions the material was in at the time it was taken out?—A. I don't know what instructions he gave.

Q. These were proper instructions for him to give under the circumstances. A new engineer going in there with instructions to rush the work could not give anything else but such instructions?—A. I don't know how far he could make any change in the specifications.

Q. But the specification called for classification in the state or that material at

time it is taken out. That is what all specifications must mean?—A. It does not refer to any particular time of being taken out.

Q. No, but it is the condition it is in when it is taken out; that must be the criterion surely. All material is subject to change more or less, isn't it?—A. There is very little change in rock.

Q. There is not very much change in ledge rock, but I would not have thought there was any question that the material in the shape it is taken out, must be the criterion as to its classification.

By the Chairman:

Q. If it is taken out in winter, I suppose there may be some change. If it is taken out in winter it may be frozen.

By Mr. Moss:

Q. Where you have Mr. Poulin going in there with instructions to rush this work and get it through, it would not be for him to enter into questions as to whether the contractors under his predecessor might or might not have done the work earlier. It was his business to get it done?—A. It is his business to get the work done.

Q. And the only course he could pursue was to return it according to conditions in which it was at the time at which it had to be done, leaving it to the Commissioners to deal with any questons of default. Is not that the proper and reasonable attitude for him to take?—A. That seems to be true, and it might not.

Q. If he had adopted any other course, the probability would be that there would be a great deal of trouble, delay and friction and probably litigation. Would not that be likely?—A. That would depend.

Q. I am asking for your opinion?—A. I cannot tell what the contractor would have done.

Q. Then he finishes up. (Reads).

> And I consider I acted not only within the spirit but also strictly within the letter of the specification and the special interpretation given out to us by the Chief Engineer on January, 1908.
>
> S. R. POULIN,
> *District Engineer.*

That does not call for any comment?—A. No.

Q. I will put Mr. Doucet's letter of the 23rd June in, to Mr. Parent, dealing with the examination of District 'B' and ask you to follow me as I read this. It is as follows:—

EXHIBIT No. 74.

QUEBEC, June 23, 1909.

Hon. S. N. PARENT,
Chairman,
Ottawa.

DEAR SIR,—I have to report that the arbitration board appointed to inquire into the complaints made by the engineers of the Grand Trunk Pacific Railway, re alleged overclassification by our engineers at certain specified points in District 'B,' made a hasty inspection of our line from mile 150 to mile 50 west of the Quebec bridge. The specified points were as follows:—

From the Batiscan river (mile 65) westerly to mile 85, and from mile 115 westerly to mile 132. In the former mileage no complaints in detail were advanced, but it was stated that on account of the Grand Trunk Pacific Railway engineers not being supplied with total quantities of graduation, they could not judge with reference to any particular cutting, although percentages for the

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entire distance seemed excessively heavy in both loose and solid rock. Between miles 115 and 132, however, illustrations of the classification were given in the following cuttings:—

Stations 5818 to 5826.
" 5842 to 5860.
" 5866 to 5875.
" 5882 to 5901.
" 6030 to 6046.
" 6071 to 6078.
" 6391 to 6394.
" 6493 to 6504.
" 6506 to 6512.
" 6522 to 6548.

The complaints were made by the Assistant Chief Engineer of The Grand Trunk Pacific Railway in October, 1907, prior to the interpretation of the classification made by our Chief Engineer, Mr. Lumsden, in January, 1908, and which interpretation was accepted by Mr. Woods, the Assistant Chief Engineer of the Grand Trunk Pacific railway, acting on its behalf.

On Friday, June 11, I received a telegram from our Chief Engineer advising me that the arbitrators under the agreement with the Grand Trunk Pacific would be in Quebec, Tuesday morning, proposing to begin their work at the 150th mile west of Quebec, the westerly end of Hogan & Macdonell's contract, and work easterly.

On June 14 our Chief Engineer wired me that the present inspection would be confined to objections made on or before July 8, 1908, and later that the arbitrators would only leave Quebec Wednesday morning.

On our way to La Tuque I told the Chief Engineer that we would stop at the 132nd mile, or station 6960, as this was the furthest point to which objections had been made prior to July, 1908. The Chief Engineer of the Grand Trunk Pacific Railway speaking, I take it, on behalf of the arbitrators, as neither of the other two made any objections, answered that they were going up to the 150th mile, or 18 miles further west than authorized by their commission. Under the circumstances, I could only give orders to proceed with the train as far as the present end of steel at mile 140½. No questions were asked me as to the work, how the classification had been arrived at, or what was the interpretation put by our engineers on the classification. On Thursday a start was made at five o'clock in the morning, reaching the 150th mile at nine o'clock. The first cut inspected consisted of classified material in which one thousand yards of solid rock in masses had been returned by our engineers. Mr. Schreiber turned to me and asked me to point out where the thousand yards of solid rock were. I answered him that the cutting was classified material, and that the boulders of which it was composed were in the embankments. I was asked to point out where 1,000 yards of boulders averaging one cubic yard each could possibly be; to which I said that as the material was classified, it did not matter whether the boulders were a yard each so long as the mass consisted of boulders large and small cemented together, Mr. Kelliher, the Chief Engineer of the Grand Trunk Pacific, then spoke up and said that if I read the specifications I would see that boulders to be estimated as solid rock must measure one yard each. I at once saw that the arbitrators had made up their minds to throw out everything which our Chief Engineer had returned as solid rock except ledge rock and boulders each of which measured one cubic yard, and that in the subsequent inspection of the work there would be no use in my taking part. I, therefore, contented myself in keeping ahead of the arbitrators and ordering the division and resident engineers to give them all the information they had regarding total quantities returned in each

cutting. The method of classifying adopted by the arbitrators consisted in walking through the cuts or riding on a hand car through them. At each end of the cuts Mr. Schreiber and Mr. Kelliher would confer together, our own Chief Engineer generaly being left to himself. Mr. Schreiber did not take any notes himself, but was satisfied to leave this part of the work to Mr. Kelliher. After reaching the cars at night, Mr. Kelliher would give the notes to the stenographer, who was supposed to typewrite them and hand the copies over to the Chief Arbitrator, Mr. Schreiber. The day's work consisted in walking or riding on a hand car over from 13 to 29 miles of railway and guessing at the classification by a most cursory inspection of the cuts and borrows. A great deal of the work had been completed for two years, and our engineers wondered how any man could arrive at a fair classification in five minutes time when it had taken them two years or more to arrive at a fair classification of the material. As the arbitration had taken so long to materialize, a great many of our engineers had either left the work or had been moved to other residencies, so that the arbitrators did not have the benefit, over fully half of the work inspected, of the experience gained by the engineers who had really classified the work. Whilst I do not pretend to say that I am personally aware that every cut, as returned, is exactly correct, since the work to be classified properly must be inspected at very frequent intervals during construction, still I am positive that a cursory inspection, such as has actually taken place, is absolutely worthless.

I attach hereto a statement showing the number of yards of solid rock, loose rock and common excavation classified in a six days' trip, and I am forced to the conclusion that if the inspection did not ensure conclusive correctness, it certainly must hold the record on the score of expedition.

The arbitrators pointed out to me some defective work in masonry which I promised to have remedied. They admitted to me that the rock cuttings were generally well taken out and that the concrete work was very good. Some waste in rock cuts near the Milieu river will also receive my attention.

A. E. DOUCET,
District Engineer.

I will read from this letter (Exhibit 74) of Mr. Doucet's of June 23, 1909. (Reads.)

DEAR SIR,—I have to report that the Arbitration Board appointed to inquire into the complaints made by the engineers of the Grand Trunk Pacific railway re alleged over classification by our engineers at certain specified points in District 'B' made a hasty inspection of our line from mile 150 to mile 50 west of the Quebec Bridge. The specified points were as follows:—

From the Batiscan river (mile 65) westerly to mile 85, and from mile 115 westerly to mile 152. In the former mileage no complaints in detail were advanced, but it was stated that on account of the Grand Trunk Pacific Railway engineers not being supplied with total quantities of graduation, they could not judge with reference to any particular cutting, although percentages for the entire distances, seemed excessively heavy in both loose and solid rock. Is that correct?

A. I think that is correct as far as I can tell.

Q. (Reads).

'Between miles 115 and 132, however, illustrations of the classification were given in the following cuttings.' Then he sets out these illustrations and goes on to say: (Reads).

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'The complaints were made by the assistant chief engineer of the Grand Trunk Pacific Railway in October, 1907, prior to the interpretation of the classification made by our Chief Engineer, Mr. Lumsden, in January, 1908, and which interpretation was accepted by Mr. Woods, the assistant chief engineer of the Grand Trunk Pacific Railway, acting on its behalf.' That is correct?—A. Yes.

Q. (Reads).

'On Friday, June 11, I received a telegram from our Chief Engineer advising me that the arbitrators under agreement with the Grand Trunk Pacific, would be in Quebec Tuesday morning, proposing to begin their work at the 150th mile west of Quebec, the westerly end of Hogan and Macdonell's contract, and work easterly.' You sent such a telegram as that?—A. I presume that is right.

Q. (Reads).

'On June 14 our Chief Engineer wired me that the present inspection would be confined to objections made on or before July, 1908, and later, that the arbitrators would only leave Quebec Wednesday morning.' That is correct, I presume? A. Yes, I presume so.

Q. (Reads).

'On our way to LaTuque, I told the Chief Engineer that we should stop at the 132nd mile or station 6660 as this was the farthest point to which objections had been made prior to July 1908.'—A. Excuse me; that is the reason I hesitated. That telegram on the 150th mile—I don't know whether that is correct or not. I was only wondering whether that mentioned the telegram.
Q. It is immaterial?—A. The only thing was whether it was 150 or 132.
Q. I don't suppose it makes very much difference?—A. No.

Q. (Reads).

'The Chief Engineer of the Grand Trunk Pacific railway, speaking I take it on behalf of the arbitrators, as neither of the other two made any objections, answered that they were going up to the 150th mile or 18 miles further west than authorized by their commission.' That is correct?—A. I think so.

Q. (Reads).

'Under the circumstances, I could only give orders to proceed with the train as far as the present end of steel at mile 140½. No questions were asked me as to the work, how the classification had been arrived at or what was the interpretation put by our engineers on the classification.' That is correct?—A. Yes.

Q. (Reads).

'On Thursday a start was made at 5 o'clock in the morning, reaching 150th mile at nine o'clock. The first cut inspected consisted of classified material in which 1,000 yards of solid rock in masses had been returned by our engineers. Mr. Schreiber turned to me and asked me to point out where the 1,000 yards of solid rock were. I answered him that the cutting was classified material, and that the boulders of which it was composed, were in the embankments. I was asked to point out where 1,000 yards of boulders averaging one cubic yard each could possibly be; to which I said that as the material was classified, it did not matter whether the boulders were a yard each, so long as the mass consisted of boulders large and small cemented together; Mr. Kelliher, the chief engineer of the Grand Trunk Pacific, then spoke up and said that if I read the specifications, I would see that boulders to be estimated as solid rock must measure one yard each.' Do you recollect that conversation?—A. I cannot say I recollect the conversation.

Q. (Reads):—

I at once saw that the arbitrators had made up their minds to throw out everything which our Chief Engineer had returned as solid rock, except ledge rock and boulders, each of which measured one cubic yard, and then in the subsequent inspection of the work, there would be no use in my taking part. I, therefore, contented myself in keeping ahead of the arbitrators and ordering the division and resident engineers to give them all the information they had regarding total quantities returned in each cutting. The method of classifying adopted by the arbitrators consisted in walking through the cuts, or riding on a hand car through them. At each end of the cuts, Mr. Schreiber and Mr. Kelliher would confer together, our own Chief Engineer, being left to himself. Mr. Schreiber did not take any notes himself, but was satisfied to leave this part of the work to Mr. Kelliher.

Is that a correct description of what took place?—A. Until we got to the 132nd mile.

Q. Is that confined to the 132nd mile?—A. When I got to the 132nd mile, I went with them over the portions in dispute.

Q. Mr. Doucet is only speaking up to mile 140½ because you did not go any further than that with him.—A. That is right.

Q. Mr. Doucet says, that in stating that, he intended to apply to the whole 100 miles; generally speaking Mr. Schreiber and Mr. Kelliher would confer together and leave you largely to yourself?—A. That was perfectly right until we came to the contested portion, and then I kept with them more and when we came to the uncontested portion again, to the south end, I did the same thing again, I kept all to myself.

Q. Mr. Doucet thought you had been left already to yourself even on the contested portion?—A. No, I consulted with them on the contested portion.

Q. (Reads):—

After reaching the cars at night, Mr. Kelliher would give the notes to the stenographer who was supposed to typewrite them and hand the copies over to the chief arbitrator, Mr. Schreiber.

—A. I think that is correct.

Q. (Reads):—

The day's work consisted in walking or riding on a hand car over from 13 to 29 miles of railway, and guessing at the classification by a most cursory inspection of the cuts and borrows. A great deal of the work had been completed for two years, and our engineers wondered how any man could arrive at a fair classification in five minutes' time when it had taken them two years or more to arrive at a fair classification of the material. As the arbitration had taken so long to materialize, a great many of our engineers had either left the work or had been moved to other residencies so that the arbitrators did not have the benefit over fully half of the work inspected, of the experience gained by the engineers who had really classified the work. Whilst I do not pretend to say that I am personally aware that every cut as returned, is exactly correct, since the work to be classified properly must be inspected at very frequent intervals during construction, still I am positive that a cursory inspection such as has actually taken place, is absolutely worthless.

I suppose you do not entirely agree with him as to that. It has some small value, though it may be very much below par?—A. That depends how you look at it.

Q. (Reads):—

I attach hereto a statement showing the number of yards of solid rock, loose rock and common excavation classified in a six days' trip and I am forced to the conclusion that if the inspection did not insure conclusive correctness, it certainly must hold the record on the score of expedition.

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The arbitrators pointed out to me some defective work in masonry, which I promised to have remedied. They admitted to me that the rock cuttings were generally well taken out and that the concrete work was very good. Some waste in rock cuts near the Milieu river will also receive my attention.

A. E. DOUCET,
District Engineer

The CHAIRMAN.—I think we will adjourn now.

The Committee rose at 6 p.m.

April 13, 1910.

The committee resumed at 8.30 p.m.

Mr. GORDON GRANT, Chief Engineer, Transcontinental Railway, sworn.

By Mr. Chrysler:

Q. You are the Chief Engineer of the Transcontinental Railway Commission, Mr. Grant?—A. Yes.

Q. When were you appointed?—A. Last July.

Q. There is a letter from the chairman of the Board printed in the Return at page 38 in which Mr. Parent announces to Mr. Woods the fact of your appointment?—A. Yes.

Q. It is dated the 21st of July, 1909; what date did your appointment take effect?—A. I don't know.

Q. It had taken effect then, because Mr. Parent says you had been appointed to replace Mr. Hugh D. Lumsden. I don't intend to put all these letters in, because a lot of them bear upon the subject of the appointment of a new Board of Arbitrators You took the place of Mr. Lumsden as Chief Engineer after his resignation?—A. Yes.

Q. Had you been previously in the employ of the Transcontinental Commission?—A. Yes, since May, 1905.

Q. What was your position immediately previous to your appointment as Chief Engineer?—A. I was inspecting engineer.

Q. And how long had you been inspecting engineer?—A. About two years.

Q. That would be from—— ?—A. That would be from May, 1907.

Q. Had you previously to that been on the work in some other capacity?—A. I was assistant district engineer.

Q. Of which district?—A. 'B.'

Q. Under Mr. Doucet?—A. Yes.

Q. Now the letters and papers which are printed in this Return (S. Papers No. 42*a*) seem to give an account which will be sufficient for my purpose of what happened in regard to the question of classification upon these two Districts B and F, after your appointment as Chief Engineer, and I want to take that up first. There is a letter to you on the same page of the Return from the Secretary of the Transcontinental Commissioners, dated the 21st of July, directing you to write to Mr. Woods, the assistant chief engineer of the Grand Trunk Pacific railway, Montreal, advising him of your intended trip of inspection to Districts F and B, and to request that he accompany you 'so that you may have an opportunity of learning to what extent you can agree as to the matters in dispute in these districts.' You received that letter?—A. I did.

Q. You seem to have written on the same day a letter which follows it and which is dated on the 21st of July, you wrote to Mr. Woods a letter which is also printed on page 38 of the same Return, and you recite your position:

'My predecessor in office of chief engineer of this eastern division of the National Transcontinental Railway before resigning stopped the payment of the estimates of the contractors in Districts 'F' and 'B,' owing to his having differed with the engineers in those districts on the matter of classification. It therefore becomes necessary for me to immediately visit the work in dispute in these districts, to see for myself the classification which has been allowed.

The work under the McArthur contract in District 'F' being of such pressing urgency I propose visiting that district at once and I to-day informed the Commissioners of my intentions in this respect.'

Then further down in the same letter:

'I need not point out to you the absolute necessity of straightening up matters in District 'F' so as to insure the completion of this necessary link between your western division and your Fort William branch, so that your company may be in a position to participate in the transportation of this season's crop.'

Then you received a reply from Mr. Woods acknowledging the receipt of the letter of the 21st, the letter printed immediately below it on page 39; without reading that letter, the substance of Mr. Woods' reply was that for reasons which he states he said he could not accompany you for the purpose stated 'unless sanctioned by President Hays, who is now absent.' It is all in that one line, I do not want to encumber the records because there is correspondence between Mr. Grant and Mr. Woods bearing on the question of how the new arbitration board should be constituted, or whether it was to start over again or to continue without starting over again; that is not necessary for our purpose here.

Mr. MACDONALD.—That is not what you want to get at?

Mr. CHRYSLER.—No, I just want to get at what Mr. Grant did to straighten out this question of classification.

By Mr. Chrysler:

Q. Then you reported, Mr. Grant, on the 24th of July, to the Commissioners of the Transcontinental Railway sending them a copy of your letter of the 21st of July, and a copy of Mr. Woods' reply of the 22nd of July. Then further you state what you propose to do under the circumstances:

'As District Engineer Poulin will be down here on Monday, and as it is important that I at once go over the work, I propose to leave here on Tuesday, the 27th instant, and go over the line with the district engineer and his assistants, accompanied by the contractor, or such representative as he may select; also the sub-contractors concerned.'

A. Yes.

Q. Now, did you act upon that?—A. I did.

Q. Then we get down to a letter on page 44 in the same Return, dated the 24th of August, which contains a report to the Commissioners with regard to your inspection of District F, and also District B—no, you report in regard to District B, but you didn't visit it.—A. No, I hadn't visited it at that date.

Q. Not between those dates?—A. No.

Q. Will you tell us what you did then between the dates of these letters, between the 24th of July and the 24th of August you appear to have visited District F?—A. I went over the McArthur contract with the engineer and looked into the matter of overbreak and classification.

Q. With Mr. Poulin?—A. With Mr. Poulin and in each division the divisional engineer and the resident engineer.

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Q. Yes, well now, I want you to put on the notes, Mr. Grant, and I want you to have in your mind this fact, you are the Chief Engineer acting under these contracts and it will be your duty to determine between the Transcontinental Railway Commissioners and the contractors, the amount to which the contractors are entitled, within limits, of course, there is a certain appeal from you, but to a large extent that rests finally in your judgment. You are also, as we will find presently, the new arbitrator under Clause 7 of the agreement betwen the Government of Canada and the Grand Trunk Pacific Railway Company to arbitrate certain differences?—A. Yes.

Q. I don't want to ask you and I don't want you to answer any question that will affect your freedom of action or your freedom of judgment in either of those capacities. I don't think it proper that I should ask you, or that you should be asked to answer questions of that kind, but within those limits I would like to know what you did ascertain in that tour of inspection that you made at this date, between the 24th of July and the 24th of August?—A. Well, as Mr. Lumsden had refused to sign the estimates I thought it was advisable for me to go over the work and see whether his contention was correct or not for myself, as I had just been appointed Chief Engineer and before I signed them I wanted to go over such work, he had recently been over it, and see for myself what condition it was in, therefore I went over.

Q. Yes, then you made this report which is here. I will put in this report because this appears to be relevant, and we will see as we go along whether there is anything you can add to the report.

Report fyled as:

EXHIBIT No. 75.

OTTAWA, August 24, 1909.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—As you are aware, my predecessor, Mr. Lumsden, refused to sign the progress estimates for the months of May and June, on District 'F,' and for the month of June on District 'B,' alleging that his instructions in the matter of classification, &c., had been ignored by his staff. It became necessary for me, therefore, to go over that portion of District 'F' inspected by Mr. Lumsden, and satisfy myself, from a thorough personal inspection of the work whether his contentions were correct or not that his instructions had been ignored.

With regard to my inspection of District 'F' I beg to report as follows:—

In the matter of overbreak in rock cuttings. I am of the opinion that more overbreak has been returned than is customary on railway construction in Canada, and have notes of all rock cuttings in this regard.

In the matter of classification, I have also notes made in any of the cuttings where my predecessor's interpretation of the specifications, together with his explanatory blue print diagram have, in my opinion, been misunderstood or misinterpreted by some of the engineers on this work.

As to Mr. Lumsden's allegation that his instructions had been ignored, all the engineers I have seen deny this most emphatically, stating that they have followed to the best of their ability and judgment Mr. Lumsden's interpretation of these specifications and explanatory diagram with regard to classification dated January, 1908, and which was also approved by Mr. Woods, assistant chief engineer of the Grand Trunk Pacific Railway Company.

Mr. MACDONALD.—What is that reference to Mr. Woods?

Mr. CHRYSLER.—The 'interpretation of the specifications and the explanatory diagram with regard to classification dated January, 1908, and which was also approved by Mr. Woods, assistant chief engineer of the Grand Trunk Pacific Railway Company.'

By Mr. Chrysler:

Q. Then before we go on to the rest of the letter I might ask you a question or two with regard to that. I do not think that it is proper to ask you as to the details of the notes which you made as to classification in the cuttings or the places where you think the explanatory blue print diagram has been misunderstood or misinterpreted unless you desire to give information if you think it won't hamper you in your action as Chief Engineer. But can you say this: Did you find that there were cases in which the instructions and the interpretation of Mr. Lumsden appear to have been misunderstood?—A. I did.

Q. Misunderstood or misinterpreted, both, or which?—A. Oh, both I should say.

Mr. Moss.—Does he make a distinction?

By Mr. Chrysler:

Q. Well, I can't say, I suppose Mr. Grant meant to make a distinction, did you?—A. Well, I think some of the engineers misunderstood what Mr. Lumsden meant by 'assembled rock.'

Q. By assembled rock. What was the character of the mistake which was made?—A. In cases it would be where the blue print diagram in my opinion—the idea is to classify it at what it looked like in the blue print, and I think in some cases they over-classified for that reason.

Q. That is they allowed more assembled rock than you would consider proper under that?—A. Yes.

Q. Under the interpretation?—A. Yes.

By Mr. Macdonald:

Q. That is they would classify rock as it would be placed in the diagram?—A. Yes.

Q. Taking it literally?—A. Taking it literally.

Q. And following the picture to classify it?—A. Yes.

By Mr. Chrysler:

Q. Wou'dn't that have the effect of diminishing the quantity of assembled rock they would return?—A. Well, in these cases, in my opinion it increased it.

Q. It increased the quantity; you might explain how that was done without giving us the contractor or the engineer, just for the sake of illustrating, if you can.—A. Well, I think that in some cases where large blasts would be sent off that it would throw up a great mass of this stuff and some of it should have been turned in as loose rock.

Q. Because of its o.iginal condition or because of its being wasted after that?—A. Because of its being too easily removed.

Q. Being too easily removed?—A. Yes.

Q. Does that mean that there were cases where explosives were used in material that might perhaps have been ploughed?—A. Oh no, it could not have been ploughed.

Q. It could not have been ploughed? That was not the question.—A. No, the boulders were not large enough to return it as solid rock.

Q. Nor close enough together, perhaps?—A. Nor close enough.

Q. Well it was cemented material requiring the use of explosives to remove it?—A. Yes, but not constantly.

Q. Not constantly, exactly, it became, in the language of the specification, occasional blasting?—A. Yes.

Q. And you think there were cases in which engineers in District F had allowed as solid rock which you would consider should be allowed as loose rock?—A. Yes.

APPENDIX No. 3

Q. Owing to that difference?—A. It not requiring constant blasting for its removal.

Q. Not requiring constant blasting, that is the test. Then you state here that so far as you can discover in conversation with the engineers, that is what that means in reference to the next paragraph, that they told you that they had followed Mr. Lumsden's interpretation to the best of their ability and judgment as you accepted that statement?—A. I did, yes.

Q. It seemed to you to be genuine and worthy of credit, about the overbreak——

By Mr. Clarke:

Q. About that, what was the real difference, what was the misunderstanding about the interpretation of the specification? Was it that the engineers thought that although there was some of it that might have been removed without blasting, that they treated it all as solid rock?—A. This is assembled rock, you mean, you are referring to assemb'ed rock?

Q. What I understand you to say is that there are some parts of the mass which required blasting, and other parts did not, and they classified that all as solid rock.—A. Well, they were classifying by percentage, you see. You would have a cut which you would call mixed material, and you would put in a blast and throw up a large mass of this stuff, and the engineer would call it 50, 60 or 70 per cent of solid rock and the balance loose rock.

Q. What was wrong with that?—A. They may have say in places 60, 70 or 80 per cent where it should have been 30 or 40.

By Mr. Clarke:

Q. That was an error in applying the specifications?—A. An error in judgment.

Q. That wou'd not be a misunderstanding of the specification?—A. A misunderstanding of this blue print diagram.

By Mr. Macdonald:

Q. They just fied their classification by this blue print diagram picture?—A. There was no assembled rock on the job until this came out.

Q. And they pointed to this picture and said that this was what they found and they classified accordingly.—A. This stuff was all turned into the estimates as assembled rock.

Q. It did not present the appearance shown in the diagram in the case you refer to until it was blown up by the explosives?—A. Oh yes it does.

By Mr. Moss:

Q. Mr. Grant wasn't there at the time it was being taken out; he was visiting it after it was all completed—did you not?—A. I had been there but I did not see much of it before the last two trips I made on that district, they were made in the winter and I could not see very much.

By Mr. Clarke:

Q. I don't quite understand yet, what I had in my mind, was there a certain formation of rock which they claimed should be classified as solid rock, which Mr. Lumsden decided should not, or was it merely an error in their judgment in applying the interpretation of it?—A. You mean the engineers on the work?

Q. Yes?—A. I think that they overestimated this mixed material.

Q. Was that from their not understanding the specification as interpreted by Mr. Lumsden or was it an error of judgment in applying it?—A. It was an error of judgment in applying whatever he meant by his blue print.

Q. Was there any difference between the engineers on the ground and Mr. Lumsden as to what should be called solid rock and what should be called loose rock?—A. There evidently is a difference of opinion between the engineers and Mr. Lumsden as to what is called assembled rock.

Q. What is that difference?—A. I don't know.

By Mr. Moss:

Q. Have you mastered the meaning of assembled rock yet?—A. I haven't, as to what Mr. Lumsden's interpretation of it is.

By Mr. Clarke:

Q. It is rather not the misunderstanding of the specifications but the wrong application of them?

By Mr. Macdonald:

Q. That is assuming they knew what Mr. Lumsden meant by it, which of course they did not?—A. No.

Mr. Moss.—Mr. Grant himself doesn't know what it was.

By Mr. Macdonald:

Q. It would only be an error of judgment if they knew what Mr. Lumsden meant. —A. Well, if they knew what he meant it would be disobedience of his instructions.

Mr. Macdonald.—Yes, that is it, it would be disobedience of his instructions if they did know what he meant.

Mr. Smith, K.C.—With a full knowledge of what he meant it might be an error of judgment without disobedience.

Mr. Clarke.—They might have made an error in the estimate, is that what you understand?

Mr. Macdonald.—They took a different view of what assembled rock meant as compared with Mr. Lumsden's view.

Mr. Moss.—That is judging by what Mr. Lumsden's evidence is to-day.

A. He never gave an interpretation of it before.

By Mr. Moss:

Q. You are assuming, your understanding of what he meant is based on his evidence given here at this investigation?—A. Yes.

Q. You had no more idea of what he meant before than anybody else?—A. No.

By Mr. Chrysler:

Q. Except from reading the blue print?—A. Yes.

Q. And his instructions——

By Mr. Macdonald:

Q. Is it a new term?—A. I never heard of it before it came up on this work, assembled rock.

Q. It was classed as solid rock in your former engineering experience?—A. Yes.

Q. No wonder they did not know what it meant then if it is a new term.—A. There is no engineer on the job knows, none that I have talked to.

By Mr. Clarke:

Q. I do not understand that term was used either in the specification or in Mr. Lumsden's interpretation of it.—A. It is not used in the specification.

APPENDIX No. 3

Mr. CHRYSLER.—There is the blue print.

Mr. MACDONALD.—He speaks of assembled rock.

Mr. MOSS.—He says, 'Rock in masses of over one cubic yard, rock assembled which in the judgment of the engineer may be best removed by blasting.'

By Mr. Clarke:

Q. I don't understand that they claim anything should be classified as solid rock other than what Mr. Lumsden said should be classified as solid rock.—A. The engineers?

Q. Yes?—A. No, they do not.

Q. So that there is no difference in the interpretation?—The difference is in Mr. Lumsden's interpretation of his own diagram as against the interpretation put on it by the engineers, that was my understanding.

Q. I don't understand yet what difference there is in the interpretation, what class of rock was it that the engineers on the ground said should be classified as solid rock which Mr. Lumsden did not say should be classified as solid rock.

Mr. MACDONALD.—In other words perhaps you might put it this way: What did Mr. Lumsden mean by solid rock as you understand it, and what did the engineers understand by it? Then we will get at it better.

Mr. MOSS.—I don't think Mr. Lumsden has ever said what he meant by assembled rock further than is shown in this letter and diagram until this investigation.

Mr. CLARKE.—Mr. Grant has stated in his letter here that he thought from his examination they had misinterpreted or misunderstood the specification or the interpretation by Mr. Lumsden of the specification. I haven't yet got in my mind what that difference was. I understood you to say that in your judgment in some cases they classified more solid rock than they should have done, but I don't understand there was any particular formation which they called solid rock which Mr. Lumsden did not call solid rock.

A. Mr. Lumsden on his arbitration trip, so far as I understand, allowed nothing as solid rock except ledge rock and boulders of over a cubic yard, which I consider is inconsistent with his own diagram.

Q. Yes, but according to this diagram which he put in showing the rock in a cemented mass?—A. Yes.

Q. That he would classify as solid rock?—A. No, he did not in his trip on the arbitration.

Q. But he does in his specification and in his interpretation?—A. Yes.

Mr. MOSS.—Where the boulders are actually in contact.

By Mr. Clarke:

Q. Yes, or nearly so. Was there anything that the resident engineers classified as solid rock beyond that that was not solid rock within these specifications?—A. Yes, in some cases they classified frozen clay as solid rock, and boulders.

Q. That is in a class by itself?—A. Yes.

Q. But did they do so in the ordinary run of the work?—A. In the ordinary run of the work, no.

By Mr. Moss:

Q. Frozen clay classified as loose rock, didn't it?—A. In some cases I find it was classified as solid rock, to a very limited extent.

Mr. CHRYSLER.—Then to bear in mind, of course the witness is here to be examined, but I do not want to ask Mr. Grant, owing to the peculiar position he occupies to decide here a question which he has to decide later on——

Mr. CLARKE.—I wanted to get clear in my mind what he meant by misunderstanding the instructions.

Mr. MACDONALD.—I think the witness should be protected, but he might say whether there was any bad faith; his opinion whether the individual classification was right or wrong he has to reserve for subsequent action.

Mr. CHRYSLER.—That is what I feel about it. Then I wanted to ask you in reference to this other paragraph of the report before I go on. 'In the matter of overbreak in rock cuttings. I am of the opinion that more overbreak has been returned than is customary on railway construction in Canada, and have notes of all rock cuttings in this regard.' Now, is the specification the same as has been usual in the construction of other railways in Canada with regard to overbreak?—A. I should say yes.

By Mr. Chrysler:

Q. Is it the same?—A. Yes.

Q. Will you tell—we were talking of it here at the table—as this specification is framed is there any allowance intended to be made for material behind the slope lines? That is clause 37. Now, don't answer this if it gets you into any trouble with regard to disputes that come before you—other than material in slopes, slides and subsidences. Do you get my point? There is always, as I understand it, more or less waste material behind the slope line, owing to the impossibility of a contractor, either in earth or rock, but more particularly in rock, getting back to the slope line without taking any more material behind it; do you understand that this specification gives any rights to a contractor, in that sample case, to be paid for the material behind the slope line?—A. You can pay for what is commonly known as overbreak on this specification under clause 37, and clause 38.

Q. What is it that you say is commonly called overbreak then?—A. That is material that tumbles in, for which the contractor is not responsible. You have authority to return that under clause 37, and the engineer has authority to classify it under clause 38.

Q. Broken material, even on the face of rock behind the slope line, falling in and being used would not be paid for?—A. Yes, that is, falling in if it was not deliberately broken down by excessive blasting; then you are not supposed to pay for it.

Q. I have drawn a rough illustration of a sample inequality, lying behind the slope line in an ordinary rock wall, but of course, what you refer to in this letter is something a great deal more extensive than that, isn't it?—A. Yes.

Q. Will you explain what it is?—A. The extensive part.

Q. Yes?—A. Well, in some rock cuts the formation of the rock is in such shape that it will come down in spite of any precautions that the contractor may take to keep it there. The engineers may order it down for the safety of the line.

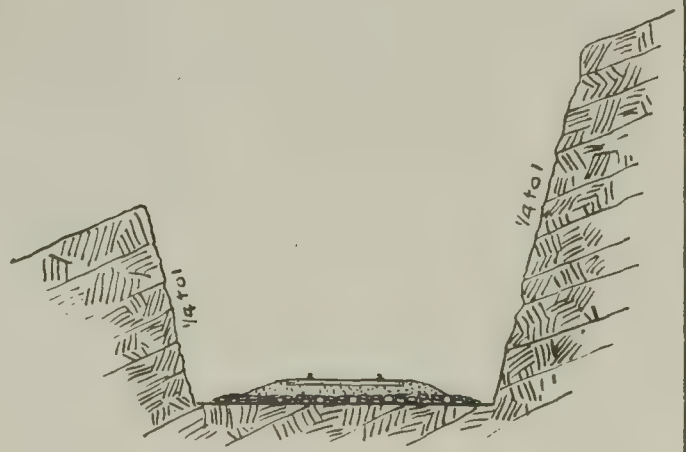
Q. Here is an illustration, I suppose, of one case that may happen—there are scores of them—Exhibit 76). In getting back to that point, the whole mass rock, if for instance the stratification lay like that, or the cleavage of the rock, you might remove all that is in the area AA?—A. That might slip down. There might be an earth seam, and that would come down in the cut. That would be called unavoidable overbreak.

Q. And whether that is to be allowed or not depends on the question whether it is negligent blasting or not; that is one way of putting it?—A. The contractor may blow it out like that (pointing to illustration, exhibit 76).

Q. That should not be allowed?—A. No.

Q. We will make a diagram of that; that is the area BB; if blown out by the excessive use of explosives that would not be allowed as overbreak. I will put the bottom of the cutting there. What do you call that?—A. That is the sub-grade.

TYPICAL ROCK CUTTING



ROCK CUT ILLUSTRATING WHAT IS CALLED
AVOIDABLE AND UNAVOIDABLE OVERBREAK



LUMSDEN ENQUIRY - EXHIBIT 76

APPENDIX No. 3

Q. This slip occurs always, but that is a case which may occur and frequently does occur, from nobody's fault; the material in AA slips down, and within the conditions which are mentioned in clauses 37 and 38 it is to be paid for?—A. To be paid for.

By Mr. Moss:

Q. To be paid for as overbreak?

Q. The expression 'overbreak' is not mentioned in the contract; that is colloquial professional slang, I suppose?—A. It is simply used as a short term.

Mr. CLARKE.—Slips, slides, and subsidences.

Q. Professional jargon?—A. Yes.

By Mr. Chrysler:

Q. BB, as shown on the diagram is a sort of thing which under ordinary circumstances should not be paid for, that is blown out away behind the slope line by carelessness?—A. Or deliberately.

By Mr. Clarke:

Q. Can they gauge it pretty well by the blasts—tell how far a blast will extend?—A. Yes, these foremen know how to load a hole very closely, as to what the work will be from the amount of explosives they put in.

By Mr. Macdonald:

Q. It is a matter of estimate, however, afterwards, isn't it—purely a matter of estimate more than measurement as to how much would come under AA and how much under BB in the classification?—A. Oh, yes, the engineer has got to be guided largely by his knowledge of the work.

By Mr. Chrysler:

Q. Then to go on with this letter, what you did with regard to contract No. 21 on District 'F,' the contractor being Mr. J. B. McArthur, is stated here. You found:—

Exhibit 75 continued—

The securities held by the commissioners as at June 1, 1909, for the satisfactory performance of the McArthur contract,, as reported by my predecessor, are as follows:—

Contract No. 21, J. B. McArthur, 246·6 miles.

10 per cent hold back to end of April, 1909..	$ 624,164 37
May estimate..	305,048 57
Estimated value contractor's plant and supplies.. ..	750,000 00
Total..	$1,679,212 94

from what I know from personal investigation of conditions existing on that part of District 'F' to which Mr. Lumsden took exception, I will approve the payment in full of McArthur's estimate for May and 75 per cent of June estimate, but will withhold further payments until such time as I can figure out from my notes exactly how much is involved in the deductions excess overbreak and over-classification by the engineers, when I will submit for your information a detailed report covering each cutting where deductions have been made, either in the matter of overbreak or over-classification.

Then there was another contractor in District 'F' who is referred to in the next paragraph, and what you say with regard to them is this:—

With respect to the O'Brien, Fowler & McDougall contracts in District 'F' the original securities are still on deposit, and the work is not nearly so far advanced. Under the circumstances, I am strongly of the opinion that the payments of their estimates should never have been stopped, as ample opportunity will offer for effecting and readjustments or revisions that may be found necessary before final payments will have to be even considered and no objections had been filed by the Grand Trunk Pacific to the work covered by these contractors. I there propose approving the estimates of these contractors at once.

Now, will you explain the situation which brought forth that letter with regard to the estimates—the situation created by the resignation of Mr. Lumsden?—A. Well, I think that is explained in my letter that you read a while ago.

Q. This letter?—A. No, the first letter.

Q. Then we have got that; I know what you mean?—A. The letter of the 21st July.

Q. He had resigned, stopping the payment of the estimates of the contractors?—Yes.

Q. And you had to deal, temporarily at any rate, with the allowing of the estimates to proceed?—A. Yes.

Q. In order to avoid tying up their money, I suppose, improperly or unjustly, until you had investigated the thing?—A. Well, I wanted to make sure what the conditions were of the work before I signed any estimates.

Q. Then you did not sign any estimates at all until you had first examined the district?—A. No.

Q. And having done that you made this recommendation?—A. Yes.

Q. Then on District 'B' that follows in the next paragraph:—

With regard to District 'B.' I have a personal knowledge of some of the work on this District, and while some of the cuttings in my opinion may be overclassified, I am satisfied that the amount involved will not reach the amount of the estimates and securities held, which later at June 1, 1909, were reported by my predecessor as follows:

Without giving the details it will be sufficient, perhaps, to give the——

By Mr. Clarke:

Q. Everything is open till the final acceptance?

Mr. CHRYSLER.—That is what I am coming to. I was just going to ask him, the only contractor whose contract is in question here among those mentioned is the contractor or the firm named in Contract No. 10—Macdonnell & O'Brien, 100 miles, 10 per cent retained, and with their valuation of plant, making a total of $793,534.89.

By Mr. Chrysler:

Q. Then you add:—

In order to assure the progress of the work and as my inspection of District 'F' took much longer than I anticipated, and the same may result in District 'B,' I will approve the payment of 75 per cent of the estimates for June in this district, pending the completion of my inspection of the district, which I propose making at once.'

GORDON GRANT,
Chief Engineer.

That is the inspection of District 'B'?

Mr. Moss.—I didn't understand, Mr. Chrysler, why there is any distinction between Macdonnell & O'Brien and the other contractors.

Mr. CHRYSLER.—Because they cover the 100 miles at La Tuque.

Mr. Moss.—The 100 miles that were objected by the Grand Trunk Pacific?

Mr. Chrysler.—Yes, the only ones that Mr. Lumsden has given any evidence about.

Mr. Moss.—Mr. Grant has made the distinction. He paid 75 per cent and held back the balance for all of them.

Mr. Chrysler.—Yes, but Mr. Lumsden's evidence refers entirely to the contract of Macdonnell & O'Brien, I understand, on District 'B.' If there is any question as to the others, they are there.

Mr. Moss.—I was only asking for information; I did not understand.

By Mr. Chrysler:

Q. Then did you afterwards make any visit to District 'B'?—A. I did.

Q. Your report upon that seems to be contained in your letter of 14th September?—A. Yes.

Q. It is directed to the Commissioners of the Transcontinental Railway, and is as follows:—

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

Dear Sirs,—With regard to my recent trip of inspection on the Macdonnell & O'Brien contract on District 'B,' mile 50 to 150, west of the Quebec bridge, and from mile 150 to mile 163 on the Grand Trunk Pacific contract, which contract extends from mile 150 to mile 200 west of the Quebec bridge, I may say that the deduction I propose making on the 13 miles of the Grand Trunk Pacific contract for excess overbreak and over-classification will be approximately $15,000, and on the 100 miles of the Macdonnell & O'Brien contract approximately $272,000.

As this is a large sum of money, the deduction of which at any one time will seriously embarrass the contractors, and as we, in any case, have ample protection by the amount of our 10 per cent drawback, I propose to pay the 25 per cent held back on the Grand Trunk estimate for June, pay the July estimate in full, and deduct the $15,000 from the August estimate.

With regard to the $272,000 to be deducted from the Macdonnell & O'Brien contract, I will deduct the 25 per cent still held back on their June estimate, pay the July estimate in full, deduct the total estimate for August, and deduct 50 per cent of the September estimate, balance to be deducted from the October estimate.

Now, that was the financial settlement—temporary settlement?—A. Temporary settlement.

Q. The temporary settlement that you made of those two contracts on District 'B'; was the settlement final either with regard to those two contractors on District 'B' or the contractor, Mr. J. B. McArthur, on District 'F'?—A. No, it was not.

Q. In what situation were you left with regard to those contractors after you had made this?—A. Because in most of those cuts I only went through and made no diggings or anything. It was all left to be settled definitely final so far as the classification was concerned. Nothing that I did was final.

Q. And so far as these three contracts are concerned there has been no final estimate?—A. Not yet.

By Mr. Macdonald:

Q. You made further examination?—A. No, I ordered the cuts to be remeasured, which is being done.

By Mr. Chrysler:

Q. But so far as classification is concerned, if errors appear to have been made in the classification?—A. It would be adjusted later on by measurement and not by guess work.

Q. It can be adjusted later on, and will be adjusted?—A. Yes.

By Mr. Clarke:

Q. Can that be done accurately?—A. It can, where there was a difference of opinion as to what was ledge rock and what was assembled rock. In many of those cuts it was all turned in as solid rock and there was no distinction made between ledge rock and assembled rock.

Q. They are in the same class, are they not?—A. They are in the same class as far as money is concerned, but you cannot dispute ledge rock, but there may be a difference of opinion as to how much assembled rock there is in a cut.

By Mr. Moss:

Q. How can you tell after it is dislocated, so to speak?—A. Because in many cases, there is a distinct line between the loose rock and the assembled rock.

Q. That is, in the bank, you mean?—A. In the side of the bank, in the side of the cutting, but until the ledge rock has been separated from the assembled rock, you can't tell how much assembled rock the engineer has returned; so to do that you would have to remeasure the cutting and separate the different kinds of rock.

Q. You will have to strip the face of the cutting in order to get at the estimate?

By Mr. Chrysler:

Q. According to what you say, then, the object of the measurement is to separate for the purpose of making proper classification the quantities which have been returned as rock, into the two parts—ledge rock and assembled rock?—A. Yes.

Q. Then when that is done, you can verify the ledge rock, you think, from the appearances on the ground? Then you can re-measure the assembled rock and see whether that exceeds the assembled rock that shows on the side of the cutting; separate that from other loose rock or common excavation?—A. It lies on top.

Q. Do you think that can be done? Can you get the facts?—A. That can be done in the majority of cases, where there is any dispute.

By Mr. Macdonald:

Q. It is not an absolute verification, but only an approximate?—A. Well, it is in many cases; it would be absolute.

By Mr. Clarke:

Q. That is, if the cutting is of the same character as the slopes?—A. Yes.

By Mr. Chrysler:

Q. Then that appears to be referred to in the next paragraph of your letter, your report:—

> Considerable measurements will have to be made on some residencies before the overbreak and over-classification can be arrived at and deducted, but in some cases I have deducted a lump sum pending the remeasurement, so that the deductions I have made may be less after the remeasurements.

A. Quite correct.

Mr. GRANT.

APPENDIX No. 3

Q. Can you put that into money? I mean, is your judgement still the same as it was in September, 1909? Do you still think that the amount which is mentioned here, $272,000 is an outside amount?—A. I think it is excessive.

Q. But you have reserved that sum as explained in this letter?—A. Yes.

Q. And in your view that will cover any possible change that will be made as the result of the more accurate measurements which you are now making, or have made. Have you made them yet?—A. They have been made. We have got a special man to make them.

By Mr. Macdonald:

Q. A special engineer, fully qualified?—A. Yes.

By Mr. Chrysler:

Q. Then in the next paragraph you say:—

I beg to inform you that, so far as District 'B' is concerned, I have since the first of last June inspected, with the exception of some sand cuts, all the work from the Quebec bridge, mile 0, west to the 225th mile, and may say that, from mile 0 to mile 50, I have no fault to find with the classification that has been allowed, and from mile 163 to mile 225 the classification that has been allowed is also correct, and no excess overbreak has been returned on that part of the line.

Q. Then the remainder is under examination, is it?—A. It is under re-measurement.

Q. The rest of the letter refers to New Brunswick and the part of the line east of Quebec bridge. Then there is a later estimate contained in the letter just below that, with regard to the McArthur contract—letter dated 14th September; that is a short letter and we will put it in. It refers only to this subject.

EXHIBIT No. 77.

OTTAWA, Sept. 14, 1909.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—With regard to my recent trip of inspection on the J. B. McArthur contract in District 'F,' I may say that the deductions I propose making for over returns in the matter of overbreak and overclassification will be approximately $370,000, but it may be less after remeasurements have been made.

Consequently, I propose signing J. D. McArthur's progress estimates to date, after deducting the above stated amount from them.

I am sending a report to the district engineer who will have his resident engineers deduct the above amount in detail from their estimates. I may say that in some cases where the measurements were not finally made in uncompleted cuttings, and where, in my opinion, over-classification had been allowed, I simply deducted a lump sum, and when the final measurements are made the district engineer will adjust the matter in accordance with the rate of classification we agreed to allow.

GORDON GRANT,
Chief Engineer.

Q. Now, that is a later determination of the position with regard to the McArthur contract than that which is contained in your letter of the 24th August. In the meantime what have you done? You see, in the 24th August letter virtually you said you didn't know just what would be proper to allow or to withhold until you considered, looked over your notes, but in the meantime you would sign the estimates;

now, as I understand this letter of September 14, you had made up your mind to something; had you in the meantime looked over your notes?—A. When I wrote this letter?

Q. Perhaps you had not; you had something before you that made you arrive at a figure?—A. Yes, I had figured out the possible deductions when I wrote that letter.

Q. Then what do you say with regard to this sum of $370,000? What is your judgment as to it? Is it the same now as it was then—that would be approximately sufficient?—A. Oh, I think I was on the high side. That was my intention.

Q. What you said here is that that would be approximately $370,000 'but it may be less after re-measurements have been made'?—A. Because in any cuts, where measurements have to be made I simply deducted a lump sum from the estimates.

Q. There is a revision of that?

Mr. MACDONALD.—I was going to ask whether those questions have been finally determined, or are those amounts still estimated?

By Mr. Chrysler:

Q. There is a revision of that figure. In your letter of September 20, you write:

EXHIBIT No. 78.

OTTAWA, September 20, 1909.

The Commissioners of the Transcontinental Railway,
Ottawa, Ont.

SIRS,—With reference to my letter of the 14th instant re my recent inspection of District 'F,' and in which I stated that I was deducting $370,000 from the progress estimates now due Mr. McArthur. Since writing that letter, I have revised my figures, and the amount to be deducted now is $359,488.96, and my construction accountant has since informed me that Mr. Lumsden had previously deducted $140,086.80 from Mr. McArthur's March estimate, and $17,000 from the April estimate, but for what reason I do not know, though I presume it was for overbreak, but he has left no record or memorandum showing from what residency or subcontractor or cutting he wished the above amount deducted.

Consequently, as I am satisfied that, for the present purposes, and until the arbitration has taken place, the above mentioned amount is sufficient to hold back, I have signed McArthur's estimates to date, after deducting the $359,488.96, less the amount previously deducted by Mr. Lumsden, viz.: $157,086.80, which will amount to a deduction on my part of $202,402,16.

GORDON GRANT,
Chief Engineer.

So that is the net revision up to that date. Now, how does it stand at present? Has it been changed since?—A. Well, there has been quite an amount deducted by arbitration since.

Q. What arbitration do you refer to?—A. The regular arbitration when we were out there.

Q. You have been acting on an arbitration with the Grand Trunk Pacific in which you are one of the arbitrators and Mr. Killiher the other, and Mr. Schreiber is the third arbitrator?—A. Yes.

Mr. MACDONALD.—It would be just as well to avoid any reference to anything that has to do with that part. We have nothing that will permit us under the reference to touch that at all, and anything should be entirely apart from that.

By Mr. Chrysler:

Q. So far as you are concerned as between you as Chief Engineer and the contractor, is this the state of the matter?—A. That state of affairs still exists.

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Q. And with regard to the Macdonnell and O'Brien contract in section 'B'?—A. The measurement has not been completed owing to weather conditions. When the snow came on we could not do anything more about it.

By Mr. Macdonald:

Q. What about the O'Brien and McDougall contract?—A. All differences have been adjusted except one or two trifling ones between myself and the Grand Trunk Pacific.

Q. Apart from the arbitration?—A. That has been settled outside of the arbitration.

By Mr. Clarke:

Q. But there are other matters still being arbitrated?—A. On the McArthur contract only.

By Mr. Macdonald:

Q. I was speaking about the O'Brien and McDougall one?—A. There are no disputes on District F, except those on the McArthur contract.

Q. They are cleaned up on all the other work?—A. They are cleaned up on the O'Brien and McDougall contract.

Mr. CHRYSLER.—I think, with the permission of the committee that is as far as I want to go with Mr. Grant on this subject. Of course, Mr. Grant is here and he can give us every information at any time we call him. If you, Mr. Smith, want to cross-examine the witness, I have closed for the present.

Mr. SMITH.—I won't use the expression 'cross-examine' but I would like to ask Mr. Grant a few questions. I do not know whether the committee is going to sit any longer this evening.

Mr. MACDONALD.—We will sit a little later because we were late in getting started.

By Mr. Smith:

Q. Mr. Grant, you have had considerable experience as an engineer?—A. Since 1882.

Q. And you have acted as engineer upon various works?—A. I have.

Q. Perhaps you will tell us the extent of your experience, Mr. Grant, and its character?—A. I went through South America in 1882 and worked on railway work there until 1887. From 1887 to 1890 I worked on the Intercolonial Railway. From 1890 to 1893 on the Canadian Pacific Railway. From 1892 to 1896 in the United States, and from 1896 to 1905 on the Canadian Pacific railway.

By the Chairman:

Q. In what capacity? Of what branch have you special knowledge—A. In construction entirely.

By Mr. Macdonald:

Q. You worked on construction all through that time?—A. All through that time.

By Mr. Smith:

Q. You have already told us that you were District Engineer of District 'B.'?—A. No, Assistant District Engineer.

Q. Assistant District Engineer of District 'B,' and you were subsequently Inspecting Engineer for what portion of this line?—A. Well, I was supposed to be for all. I was subject to Mr. Lumsden's instructions as to where he sent me.

Q. When you say 'for it all' do you mean from Moncton to Winnipeg?—A. Yes.

Q. Not for the Western Division?—A. Not west of Winnipeg.

Q. In your quality as Inspecting Engineer did you go over the line from time to time?—A. I did.

Q. And more particularly did you go over District 'B,' and District 'F.' ?—A. I made one trip over the whole of District 'F.' in July, 1907. I went over part of it in March, 1908, and part of it in November, 1908.

Q. Would you tell the Committee what was the character of the examination of the cuttings you made in District 'F.' ?—A. Well, the first, I examined more particularly in July, 1907, when I went over the whole district. In March, 1908, there was from three to four feet of snow on the ground and I could see very little of what was the classification. And the same applies to November; but in place of there being three feet there were three inches of snow.

Q. In 1907 when you went there first, how far had the work progressed—A. About 18 per cent of it was done.

Q. So you were able then to form an opinion of the character of the material that was being dealt with by the contractors?—A. Yes.

Q. And I suppose you must also have had some impression made upon you of the nature of the classification the engineers were making?—A. Yes. I considered it too low at that time.

Q. You considered the engineers were classifying too low?—A. Yes.

Q. What do you mean by that?—A. I thought that material which was being returned as common excavation should have been loose rock.

Q. Now, what you tell us with respect to District 'B' was your personal knowledge, or how was it derived? For what period were you stationed on District 'B' ?—A. As inspecting engineer?

Q. In any quality. As assistant district engineer or as inspecting engineer?—A. I was assistant district engineer from October, 1905, until May, 1907. From the time the work began until May, 1907, I had considerable knowledge of the classification. I left there in May, 1907, and up to that time there was no dispute as to classification with the Grand Trunk or any one else.

Q. Up to when?—A. Until May.

Q. 1907 ?—A. Yes.

By Mr. Moss:

Q. On 'B ?'—A. On 'B.' The first dispute filed by the Grand Trunk was Mr. Woods' letter of October 7. I went over that work in August, 1908, and I then reported both to the district engineer and the Chief Engineer that in my opinion the classification was too high on the work west of La Tuque.

By Mr. Smith:

Q. West of La Tuque? Is that the portion that is in question here?—A. Yes.

Q. Is that the last inspection you made of district 'B ?'—A. That was the last inspection I made before Mr. Lumsden's trip on the arbitration.

Q. Were you present then?—A. No.

Q. And you have never seen it since?—A. I have seen it since, yes.

Q. What I want to get at is this: I want you to look at sections 34, 35, and 36 of the specifications, with which of course you are very familiar, and tell the committee whether an engineer, a young resident engineer, dealing with the various geological formations that he had to deal with in classification there, whether in these specifications, in your opinion, he would have sufficient guide to classify with any very great degree of accuracy or any great degree of certainty?—A. Without specific instructions from his superior?

Q. Yes?—A. No.

Q. I take it from the fact that there were differences of opinion and that Mr. Lumsden, the Chief Engineer, found it necessary to publish to the engineers a special interpretation of these clauses, or at least of one of them, that these clauses in the

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specifications, were not sufficient guide to the young engineers. Am I right in that?—A. No.

Q. Eh?—A. No.

Q. You think I am not right?—A. No. Not in my opinion.

Q. Well, did you follow the question?—A. I did.

Q. I say if this had been sufficient guide——?—A. Oh, if this had?

Q. I say if this had been sufficient guide it is probable that there would have been no special interpretation necessary, the difference of opinion would not have declared itself?—A. Well, I don't think it was necessary for Mr. Lumsden to publish his opinion.

Q. Oh. You don't think it was necessary?—A. No.

Q. But you have already told us that these specifications—taken baldly as they are there, and bearing in mind the special formations that you have personal knowledge of—there would be great difficulty for a young engineer to classify the material that you knew to exist and that he met with? Is not that correct?—A. I think that an engineer requires to be instructed. The best way to instruct him is to go into a cutting and do so and not write letters to him.

Q. Yes. I agree with you there; but let us be perfectly clear on this. You have got the specifications (reads):

> Solid rock excavation will include all rock found in ledges or masses of more than one cubic yard——.'

I take it that the use of these two words means that there is some difference between ledges and masses? There is a distinction intended to be drawn there, isn't there? It doesn't mean masses of ledge rock because rock is found in ledges is clear and distinct in itself, isn't it?—A. Yes, it is.

Q. Well then, the use of the term masses means something different from ledge rock, doesn't it, or from rock in ledges? Now, how would an engineer, a young resident engineer, with the most honest intention in the world, how would he distinguish between these two things?—A. Without being instructed?

Q. Yes.—A. I think he would have to do a little thinking.

Q. He would have to do a little thinking, but to put the matter plainly, he would be in grave difficulty, wou'dn't he?—A. Well, he would be obliged to ask his superior.

Q. That is what I want to come to now. I am always asking you, Mr. Grant, especially to bear in mind the formation, the class of material, its union, whether it is cemented together in masses, all that class of material that you know to exist there. And now, with that knowledge, you tell us that the young engineer would require to be instructed in making his distinction between rock found in ledges or masses. That is correct, isn't it?—A. All that the resident engineer requires to be instructed in is in mixed material, how to classify it properly. He should be instructed to do so.

Q. Well now, Mr. Grant, I suppose we will include, will we not, in masses what you have now spoken of as mixed material?—A. Yes.

Q. Now, taking Mr. Lumsden's interpretations of January, 1908?—A. Yes.

Q. Do they clear up the difficulty that will exist in a young engineer's mind?—A. Not in my opinion. No, they do not.

Q. Would you amplify that answer a little? You have had a great many years experience as an engineer, and in answer to Mr. Chrysler or possibly it was Mr. Clarke, you said you didn't know yet the meaning intended to be conveyed by that blue print with the explanatory notes.—A. No.

Q. That is correct, is it?—A. I don't know what Mr. Lumsden intended to mean.

Q. Suppose a dozen engineers, Mr. Grant, took up that blue print with the explanatory notes, would they all understand at once what was meant, or would there be a difference of opinion among them as to what was meant?—A. Do you refer to Mr. Lumsden's blue print?

Q. His blue print, his interpretation of January, 1908?—A. I don't know that any of them would arrive at the same conclusion as to what was meant.

Q. Even engineers of experience?—A. Even engineers of experience.

Q. Well then, how could resident engineers who, I suppose, are not taken from the most experienced classes, are they?—A. Well no, they would not be, young resident engineers.

Q. If there would be probably no two opinions among a dozen experienced engineers, how could young engineers be certain as to what that interpretation meant, or as to how there were to classify under it?—A. They could not be.

Q. Then, in your letter of August 24 you have spoken of the cuttings where 'my predecessor's interpretation of the specifications, together with his explanatory blue print diagram, have in my opinion been misunderstood or misinterpreted by some of the engineers on this work.' Did it occasion you any surprise that they were misunderstood or misinterpreted?—A. It did not, because I knew as inspecting engineer, they were misunderstood and misinterpreted, and I informed the Chief Engineer of that fact. A year before he went to arbitrate I knew that they were misunderstood from one end of the line to the other.

Q. What action did Mr. Lumsden take when you informed him?—A. None at all that I knew of.

Q. Was the thing left in the nebulous condition for the young engineer to make the best he could of it?—A. So far as I know.

Q. Please tell us now in what particulars these specifications are indefinite, I mean in what particulars Mr. Lumsden's interpretation of these specifications is indefinite?—A. Do you mean his blue print?

Q. His blue print, with the explanatory notes.—A. Well, he gives you a picture to classify by. That is indefinite, and he leaves it to the judgment of the engineer to classify according to the picture.

Mr. CLARKE.—Not a moving picture either.

By Mr. Smith:

Q. Does that blue print afford any special guide in dealing with the various classes of massed material that the young engineer would meet with?—A. No. Because the engineer's guide as far as massed material is concerned, depends greatly on the hardness of the material as to which he gets no guide in the picture. The difficulty in removing it has more to do with it than the look of it.

Q. And there is no scale or no dimension shown in the blue print, is there?—A. No. There is no scale showing what sizes of rocks. The rocks may be very small and still be very much more difficult to remove than if they were larger and the material between them less cemented.

Q. Well then, on the whole, you are not surprised that this misinterpretation of the specifications should exist?—A. I am not surprised that the engineers and Mr. Lumsden should have a difference of opinion.

Q. Now, I agree with Mr. Chrysler in appreciating the delicacy of your position as Chief Engineer, and also as arbitrator, so that you will, of course, Mr. Grant, use your own discretion in answering any questions. You say that in your opinion they did over-classify and you give as an example that where large masses were thrown up by a blast some of it should have been turned in as loose rock. Now, would it be possible for you to form an accurate opinion of the material as it existed previous to the blasts?—A. Where?

Q. The blast that you say some of it should have been turned in as loose rock?—A. Well, if you take District B, I based my opinion on various trips before Mr. Lumsden ever visited it.

Q. Yes?—A. And my conversation with both the Division and Resident En-

gineers on the work. My opinion of the classification on that part of the work was formed long before I was Chief Engineer.

By Mr. Macdonald:

Q. And what was that opinion?—A. That it was too high in many cases. I saw that work when it was going on.

By Mr. Smith:

Q. It was too high in massed material or in mixed material?—A. Yes. There is no question in any other material.

Q. You do not suggest for a moment that there was any over-classification in ledge rock for instance.—A. No.

Q. The only question is you say that where material was moved by blasting some of it should have been returned as loose rock instead of solid rock?—A. Yes.

Q. Now, let me put the question to you in this way: under the interpretation put upon these clauses of the specifications by Mr. Lumsden in 1908, illustrated by his blue print?—A. Yes?

Q. Would a young engineer be justified, or would he not, in classing that material which was just removed by blasting as assembled rock?—A. Not unless it was sufficiently cemented together to justify his doing so.

Q. Yes, but we are dealing now with material that was being blasted.—A. Oh, well——

Q. Because I was taking your own illustration, and the fact that it was blasted I assumed to be some evidence that it could not be removed otherwise.—A. A contractor will blast sand and gravel if he thinks he can fool the engineer into allowing him solid rock for it.

Q. Now, in what cases did you find that this material that was removed by blasting ought not to have been removed by blasting?—A. In many cases.

Q. Then you were of opinion that the fault was in resorting to blasting when it was not necessary?—A. Yes.

Q. What action did you yourself take when you saw it?—A. I reported it to the engineer.

Q. To Mr. Lumsden?—A. To Mr. Doucet.

Q. That you have said was more than a year previous to his interpretation?—A. It was a year after his interpretation.

By Mr. Clarke:

Q. A year, was it?—A. Well, it was six months after his interpretation.

By Mr. Moss:

Q. Did you report the matter in writing?—A. I reported later in writing to Mr. Lumsden when he took no action on my verbal report.

By Mr. Smith:

Q. Did you have any conversation with Mr. Lumsden about it?—A. I did.

Q. What did he say about it?—A. Nothing.

Q. He paid no attention to it?—A. Paid no attention to it so far as I know.

Q. Then did you take steps yourself to prevent it in future?—A. Yes. I asked Mr. Lumsden's permission to go back, and Mr. Doucet and I went over the work again and the classification was reduced in many cuttings.

Q. That was done on your own initiative?—A. Yes.

Q. And not on Mr. Lumsden's?—A. No.

Q. Then am I right now in understanding your answer to be that you and Mr. Doucet together did correct—A. Yes.

Q. What you have spoken of?—A. We did correct it but I am of opinion it could stand a little more correcting.

Q. It could stand a little more correction. Without going into figures at all, Mr. Grant, can you give us some idea of the extent of what you have now spoken of, or can you give us any idea of the extent to which it has not been corrected yet? You and Mr. Doucet together corrected, I understand, the principal portion of it?—A. Yes.

Q. That you found was wrong? Well now, can you tell us what is the amount that was not corrected?—A. In money or yards?

Q. We have been talking about percentages. Give us some idea of the percentage.—A. You mean with regard to the whole contract?

Q. No. Not the whole contract, the portion in dispute in District B and District F, to what extent has there been in your opinion——A. Over-classification?

Q. Yes.—A. Oh, I don't know. I would make a wild guess, perhaps one per cent.

Q. Would it exceed twice as much as one per cent?—A. No. I don't think so.

Q. It would not exceed two per cent?—A. No. I don't think so.

By Mr. Macdonald:

Q. That is, which still remains to be corrected?—A. Yes.

Q. Or is that altogether?—A. Which still remains to be corrected.

By Mr. Smith:

Q. You would make it as a hazard that it would be somewhere in the neighbourhood of one per cent and you feel certain that it would not?.—A. Oh, I can't tell to a certain, I am only guessing. The thing is——

Q. Did you find any under-classification?—A. Yes, I did, and that has not been corrected as yet.

By the Chairman:

Q. What percentage would there be under-classification?—A. When I went over the line as Chief Engineer I only looked at the over-classification. I looked at the under-classification too but I didn't raise any classification because there was no Grand Trunk representative with me. That is a matter that has still to be taken into consideration.

By Mr. Moss:

Q. When you spoke of that one and two per cent as being still to be considered, that is to say one or two per cent of the cuttings or of the work?—A. I mean to say one or two per cent of the quantity moved on the contract.

Q. The whole quantity moved?—A. Yes.

Q. Which requires to be re-considered? You do not mean that there would be a correction of one or two per cent? There would be one or two per cent of the quantity removed which had to be reconsidered?—A. I mean the dispute as to the classification of one or two per cent of the total amount of work done.

By the Chairman:

Q. You say that it might amount to one per cent?—A. Yes.

Q. Just a wild guess, that it might amount to one per cent?—A. Yes.

By Mr. Smith:

Q. What I am anxious to get at is whether it is a large proportion or a small proportion. Now, Mr. Grant, are you absolutely certain that there has been under-classification?—A. I am, in certain cuttings, yes.

Q. Now when you have given a percentage, it, of course, is not to be taken as binding upon you, but I wish to have before the committee some idea of whether this was a very serious proportion or whether a small proportion; you speak of possibly

one, or certain not over two per cent. You mean, or do you mean of the material moved from the cuts?—A. I mean of the excavation moved on the contract.

Q. That is to say of the material that had to be classified?—A. Yes.

By Mr. Moss:

Q. And the question in regard to that one or two per cent is as to whether it should be solid rock, loose rock or common excavation?—A. Yes.

By Mr. Clarke:

Q. How do you account for under-classification and over-classification in others? Would it be on account of a difference of engineers, or one engineer erring in both directions?—A. It is the same engineer erring in both directions. You will find a cut under-classified by an engineer who may have over-classified in a neighbouring cut.

By Mr. Smith:

Q. I think a reasonable question to put, to have the case clear now is, how do you account for the over-classification and under-classification?—A. By want of experience in the resident engineer.

Q. In what regard?—A. In dealing with mixed material.

Q. What about the interpretation of January 8 and the indefiniteness of the specifications. How far do they contribute as a cause for that or as a reason for it?—A. I think the interpretation is to blame for most of it.

Q. I suppose that would include the indefiniteness in the specification previous to the interpretation?—A. Well, I don't know what reason he had for writing it.

By Mr. Macdonald:

Q. The specifications themselves are not so definite?—A. The specifications in my mind are all right.

By Mr. Smith:

Q. Mr. Grant, you have already told us that any young resident engineer would require to be instructed with regard to this mixed material, or rock in masses?—A. He would require to be instructed on any job, under any specification.

Q. You told us a while ago that you had never heard the term 'assembled rock.' Isn't it a fact that in the country that this line runs through you meet a very much greater proportion of massed material than you would in ordinary railway construction?—A. You would, so far as District 'B' is concerned.

Q. Wouldn't you also in District 'F'?—A. No.

Q. Is that a common formation, what they were, I suppose, agreed to call assembled rock? Do you consider that a common formation?—A. You don't meet it to the same extent in District 'F' as you do in District 'B.'

Q. Don't you meet it to a much greater extent in District 'F' than you would if you were 300 miles south of the line?—A. You meet more than you do along the C.P.R., but it is practically all in the eastern 50 miles of the McArthur contract.

By Mr. Macdonald:

Q. From what point?—A. From mile 0 to mile 50 or 60.

Q. Where is mile 0?—A. At Superior Junction.

Q. From that point 50 miles west?—A. Yes, and the rest of the contract is more or less all ledge rock.

The CHAIRMAN.—I suppose we had better adjourn.

Mr. SMITH.—We will finish with Mr. Lumsden to-morrow and go on with Mr. Grant afterwards.

The Committee adjourned at 10.35 p.m.

THURSDAY, April 14, 1910.

The Committee met at 11 a.m., Mr. Geoffrion in the Chair.

The Examination of Mr. HUGH D. LUMSDEN was resumed.

By Mr. Moss:

Q. Mr. Lumsden, Mr. Huestis, the assistant district engineer of District 'F' forwarded to the Commission notes on the arbitration trip, dated Quebec, June 23, 1909, which I will now put in as follows:—

EXHIBIT No. 79.

QUEBEC, June 23, 1909.

NOTES OF ARBITRATION TRIP DISTRICT 'B.'

June 16 to 22, 1909.

We were notified that arbitrators under agreement with the Grand Trunk Pacific would arrive at Quebec Tuesday morning, June 15, and requested to arrange for a special train to leave Quebec at 9.30 Tuesday morning to proceed to La Tuque and inspect cuttings under dispute as to classification.

These disputed cuttings did not extend further north than the 132nd mile. Late Monday night received telegram to postpone trip until Wednesday morning, June 16. Messrs. Schreiber and Lumsden arrived Tuesday morning and about 10 o'clock Mr. Lumsden came to district office and stated that the other arbitrator, Mr. Kelliher, would leave Montreal at noon that day and to arrange for a special train to be ready to leave at 10 p.m. or at such hour as to ensure us being at the 132nd mile at day-light Wednesday morning the 16th, as he stated that it was agreed between himself and Mr. Schreiber that the inspection would not go further north and would only refer to disputed work. The train arrangements were accordingly made, engineers and contractors notified, when at 5 p.m. a telephone from Mr. Lumsden changed this and asked for the special to leave Quebec Wednesday 16 at 9.30 a.m.

We left Quebec Wednesday morning and arrived at La Tuque about 3 p.m., and at end of steel (140½ mile) at 7.30 p.m.

Wednesday night Mr. Lumsden came in to our car and said the arbitrators wanted to go to the 150th mile, although it was beyond the disputed work, but that he would not take notes except for the disputed work, and that also, as Mr. Schreiber wanted an early start, we would start at 5 a.m., the next morning. Without any further information or notice, the arbitrators passed our car at 4.40 a.m. while we were at breakfast and walked north.

We, Messrs. Doucet, Doheny, Fotheringham and self left at 5 a.m. sharp, but did not see any sign of the three in advance until we got to Craig & Thompson's camp, mile 150. In the meantime we had picked up Resident Engineer Paris and met Division Engineer Darcy.

While at Craig's camp a shout came from the line about one-quarter mile distant, and shortly after Mr. Kelliher descended and peremptorily demanded our notes, &c. We all walked up to the line, and I explained to Mr. Lumsden that I had brought no notes covering that piece of the line as he had informed me that it was not to be officially arbitrated on, and I naturally thought that this trip more of curiosity or a desire to see how far advanced the construction was. However, Mr. Paris (the resident engineer) had his notes, and corroborated by Mr. Fotheringham (district engineer, Grand Trunk Pacific) called them out

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for a certain distance, giving the limit of each cutting and the number of cubic yards of solid rock, loose rock and common excavation returned to date.

Messrs. Lumsden and Kelliher took these notes down in a little book, and as Mr. Schreiber was not doing so, I asked him, 'Mr. Schreiber are you not taking any notes over this section ?' and he replied 'No,' which confirmed my belief that it was not to be arbitrated upon.

On the question of solid rock being described as assembled rock, Mr. Kelliher broadly stated that there was no 'assembled rock in this country, nothing but sand and boulders,' this opinion either being formed before he visited the work or during the ten mile walk at the rate of 2½ to 3 miles per hour and looking at finished slopes.

As this statement simply revived the much discussed interpretation of the specifications, and as his interpretation was different from ours, it was useless to talk further, so we kept a little in advance and left the resident engineer to simply give quantities, the station number of each cutting and say whether it was ledge rock, or what he (the resident engineer) called assembled rock.

Generally speaking, the procedure was the same over the whole of the district, the obtaining of quantities and station numbers from each resident engineer, a walk through the cutting and the putting down of notes.

Mr. Kelliher and Mr. Schreiber always kept together and Mr. Kelliher put the notes down in his book. Mr. Lumsden took independent notes; Mr. Schreiber took none at all (*i.e.*, he did not write any down).

Between the 132nd and the 150th mile in only two cases to my knowledge was any attempt at inspection made, one where Mr. Kelliher in questioning Resident Engineer Cressman as to cemented material, walked up to the finished slope and rooted out with his foot some boulders and remarked, 'Do you call that cemented ?' when Cressman replied that it was not now, but it was different after two years' exposure.

Another case was on side of hill where a pick and shovel were used and men dug about a foot into the slope.

At about the 132nd mile cut station 6576-92, Resident Engineer Girdwood was questioned as to how he got his 1,174 cubic yards of solid rock, and he replied in boulder measurements, and led the arbitrators to believe that each individual boulder measured 1 c.y. which I knew he did not mean, and which afterwards Mr. Bourgeois informed me was not the case, as the cut in question was a mass of boulders cemented together and Girdwood had taken measurements of all boulders for a certain time to arrive at a means of estimating the percentage of solid rock in the cutting, based on our interpretation of 'assembled rock,' as the material was cemented together.

Mr. Kelliher and Mr. Schreiber stated that each boulder must measure 1 c.y., and when I stated that even in the case of individual boulders not necessarily cemented together, Mr. Woods had told me that it was not absolutely customary that they should measure 1 c.y. or 27 c. ft. exactly, but that where a boulder separate or detached was of such a size as not to be handled by two or three men, it could be called a yard, Mr. Kelliher said Mr. Woods had nothing to do with it; he did not make up specifications, and this was not in the specifications.

The following is a diary of each day's work:—

June 17.—Inspected 150-140½ mile; walked 20 miles, 5 a.m. to 6 p.m.

June 18.—Inspected 140½-122½ mile; hand car and train, 18 miles, 7 a.m. to 3.30 p.m.

June 19.—Inspected 122½-111 mile; walked 11½ miles, 9 a.m. to 6 p.m.

June 20.—Inspected 111-92 mile; hand car 12 miles; walked 7 miles, 7.30 a.m. to 6 p.m.

June 21.—Inspected 92-65 mile; hand car 27 miles, 7.30 a.m. to 5 p.m.

June 22.—Inspected 65-50 mile; hand car 15 miles and return 11 miles, 6 a.m. to 12 noon.

The above will show how thorough the inspection was. Some classified cuts their hand car did not even stop at, notes being made 'en route.'

We had photographs of the different cuts in progress of construction, but were not questioned or asked to produce anything, and the only engineer questioned on oath was Mr. Bourgeois who, unfortunately, was sick and in the doctor's hands and unable to accompany the arbitrators over the line.

H. E. HUESTIS,
Asst. District Engineer.

He says in the foregoing letter:

We were notified that arbitrators under agreement with the Grand Trunk Pacific would arrive at Quebec, Tuesday morning, June 15, and requested to arrange for a special train to leave Quebec at 9.30 Tuesday morning, to proceed to La Tuque, and inspect cuttings under dispute as to classification.

These disputed cuttings did not extend further north than the 132nd mile. Late Monday night received telegram to postpone trip until Wednesday morning, June 16. Messrs. Schreiber and Lumsden arrived Tuesday morning, and about 10 o'clock came to District office and stated that the other arbitrator Mr. Kelliher would leave Montreal at noon that day, and to arrange for a special train to be ready at 10 p.m., or at such an hour as to ensure being at the 132nd mile at daylight Wednesday morning the 16th as he stated it was agreed upon between himself and Mr. Schreiber that the inspection would not go further north and would only refer to disputed work.

Is that correct?—A. I cannot say as to the arrangement myself with Mr. Schreiber. I don't recollect that.

Q. It may or may not have occurred?—A. It may or may not. I am not sure whether Mr. Schreiber and I did not think it was worth while going, but after they met together, I think we then concluded to go further. I am not prepared to say whether they did or did not.

Q. Mr. Huestis says that that occurred; You are not prepared to contradict him?—A. I cannot say whether they did or did not.

Q. And again:

'The train arrangements were accordingly made, engineers and contractors notified, when at 5 p.m. a telephone from Mr. Lumsden changed this and asked for the special to leave Quebec, Wednesday, 16, at 9.30 a.m.

We left Quebec Wednesday morning and arrived at La Tuque about 3 p.m. at end of steel (140½ mile) at 7.30 p.m.

Wednesday night Mr. Lumsden came into our car and said the arbitrators wanted to go to the 150th mile although it was beyond the disputed work, but that he would not take notes, except for the disputed work, and that also, as Mr. Schreiber wanted an early start, we would start at 5 a.m. the next morning.

Q. Is that correct?—A. I cannot say as to that, that I would not take notes along with the other arbitrators, but I did take notes.

Q. Have you any recollection of your getting into the car and making a statement to the engineers?—A. I have a recollection of getting into the car and telling them something, but I do not remember saying I would not take notes.

Q. You cannot recollect what it was?—A. No, I cannot recollect any conversation.

Q. (Reading):

'Without any further information or notice the arbitrators passed our car at 4.40 a.m. while we were at breakfast and walked north.—A. Yes.

'We, Messrs. Doucet, Doheny, Fotheringham and self, left at 5 a.m. sharp

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but did not see any sign of the three in advance until we got to Craig & Thompson's camp, mile 150. In the meantime we had picked up Resident Engineer Paris and met Division Engineer Darcy.

'While at Craig's camp a shout came from the line about one-quarter mile distant, and shortly after Mr. Kelliher descended and peremptorily demanded our notes, &c.'

Do you remember that?—A. Mr. Kelliher went ahead to catch the engineers. I remember that, but I did not hear any of the conversation.

Q. You were not there?—A. I was not there.

Q. (Reading):

'We all walked up the line and I explained to Mr. Lumsden that I had brought no notes covering that piece of the line as he had informed me that it was not to be officially arbitrated on, and I naturally thought that this trip was more of a curiosity or a desire to see how far advanced the construction was. However, Mr. Paris (the resident engineer) had his notes and corroborated by Mr. Fotheringham (district engineer, G.T.P.), called them out for a certain distance, giving the limit of each cutting and the number of cubic yards of solid rock, loose rock and common excavation returned to date.

'Messrs. Lumsden & Kelliher took these notes down in a little book and as Mr. Schreiber was not doing so I asked him, "Mr. Schreiber, are you not taking any notes over this section?" And he replied "No," which confirmed my belief that it was not to be arbitrated upon.

'On the question of solid rock being described as assembled rock, Mr. Kelliher broadly stated that there was no assembled rock in this country, nothing but sand and boulders, this opinion being formed either before he visited the works or during the ten-mile walk at the rate of 2½ or 3 miles an hour and looking at finished slopes.'

Do you remember that statement?—A. I cannot remember that statement.

Q. You can conceive of its being made?—A. I cannot say whether it was made or not.

Q. (Reading):

'As this statement simply revived the much discussed interpretation of the specifications, and as his interpretation was different from ours, it was useless to talk further, so we kept a little in advance and left the resident engineer to simply give quantities, the station number of each cutting, and say whether it was ledge rock or what he (the resident engineer) called assembled rock.'

'Generally speaking, the procedure was the same over the whole of the district, the obtaining of quantities, and station numbers from each resident engineer, a walk through the cutting, and the putting down of notes.'

A. The only portion in dispute, the portion in dispute was, but where it was not in dispute, I did not confer with Mr. Kelliher with regard to it.

Q. I thought you told us the other day you did confer in a number of cases?—A. Not regarding places not in dispute, not regarding the first eight miles, whatever it was.

Q. I think you said so. You may not have meant it.—A. I certainly did not. The only portion in dispute, the portion in dispute was, but where it was not in dispute.

Q. You mean you had no conversation at all regarding the portions that were only portion in dispute, the portion in dispute, but where it was not in dispute.

Q. That is referring to District 'B'?—A. Yes.

Q. That does not apply to District 'F'?—A. No.

Q. District 'F'? You went over them indiscriminately?—A. Yes.

Q. (Reading):

'Mr. Kelliher and Mr. Schreiber always kept together and Mr. Kelliher put the notes down in the book. Mr. Lumsden took independent notes. Mr. Schreiber took none at all (*i.e.*) he did not write any down.'

A. That I think is correct.

Q. (Reading):

'Between the 132nd and the 150th mile in only two cases to my knowledge was any attempt at inspection made, one where Mr. Kelliher in questioning Resident Engineer Cressman as to cemented material, walked up to the finished slope and rooted out with his foot some boulders and remarked, "Do you call that cemented?" When Cressman replied that it was not now, but that it was different after two years' exposure.'

Do you remember that incident?—A. I don't remember the incident, but it is quite possible.

Q. (Reading):

'Another case was on side of hill where a pick and shovel were used and men dug about a foot into the slope.'

A. As I was telling you yesterday, I remember we dug, I could not remember where it was.

Q. The 132nd to the 150th mile, that was not disputed territory was it?—A. No.

Q. (Reading):

'At about the 132nd mile cut station 6,576-92, Resident Engineer Girdwood was questioned as to how he got his 1,174 cubic yards of solid rock and he replied in boulder measurements, and led the arbitrators to believe that each individual boulder measured 1 c. y., which I knew he did not mean, and which afterwards Mr. Bourgeois informed me was not the case, as the cut in question was a mass of boulders, cemented together and Girdwood had taken measurements of all boulders for a certain time to arrive at a means of estimating the percentage of solid rock in the cutting based on our interpretation of 'assembled rock,' as the material was cemented together.

Have you any recollection with regard to that?—A. I have no recollection with regard to it.

Q. Is 6,576 one of those mentioned by you?—A. I will have to look at my notes. I do not notice it, but I will look up the notes I have. I have no special note about that more than that it was debatable. I have at the head of the page, where the complaints commenced; that is the cutting.

Q. 6,576?—A. 6,576 to 6,592.

Q. That is where the debate commenced?—A. Yes.

Q. That is where the territory in dispute commenced?—A. Yes, I think that must be a station that is mentioned in Mr. Woods' complaint.

Q. He goes on (reading):

'Mr. Kelliher and Mr. Schreiber stated that each boulder must measure 1 c.y., and when I stated that even in the case of individual boulders not necessarily cemented together, Mr. Woods had told me it was not absolutely customary that they should measure 1 c.y. or 27 c. ft. exactly, but that where a boulder separate or detached was of such a size as not to be handled by two or three men, it could be called a yard, Mr. Kelliher said Mr. Woods had nothing to do with it; he did not make up specifications.'

Do you remember that incident?—A. I don't remember that.

Q. Then he gives a diary of each day's work, which I presume is correct. You might read it over without bothering to read it out.

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Mr. MACDONALD.—What is that you are reading?

Mr. MOSS.—This is Mr. Huestis' report on the arbitration trip on District 'B?'——A. As far as I can tell this is correct, but mine is done by stations and this is done by mileage and I cannot compare the mileage very well.

Q. I presume it is approximately correct anyway?—A. I think so.

Q. He goes on to say:

'The above will show how thorough the inspection was. Some classified cuts their hand-car did not even stop at; notes being made 'en route.'

Is that correct?—A. I think it was.

Q. (Reading):

'We had photographs of the different cuts in progress of construction, but were not questioned or asked to produce anything, and the only engineer questioned on oath was Mr. Bourgeois who, unfortunately was sick and in the doctor's hands and unable to accompany the arbitrators over the line.'

A. That is correct.

Q. To go back to District 'F,' do you remember a cut known as the Dutton cut, station 148 to 160 at mileage 132.

By Mr. Chrysler:

Q. Is that the second series of numbers?—A. That is the second series of numbers. What station was that, Mr. Moss?

By Mr. Moss:

Q. 148 to 160 at mileage 132. Perhaps this will refresh your memory about this?—A. I have station 138 to 131. I have from 144 plus 50 to 161.

Mr. CHRYSLER.—That includes it.

By Mr. Moss:

Q. Do you remember between the 25th February and 5th March, 1908, you told us of your paying a visit to District 'F'?—A. Yes, I think I did. I find on March 3, 1908, I left an order at 805 to drive to camp Fire, big cut.

Q. That is the Dutton cut?—A. That is the Dutton cut, I think.

Q. You went there at Mr. Poulin's request?—A. Mr. Poulin was with me, Mr. McFarlane and Mr. Hazelwood.

Q. I am told it was at Mr. Poulin's request you visited that cut, because he wanted to get your views on it, because it was one of the most difficult cuts on the whole job?—A. That is the cut I arranged with Mr. Poulin, to the best of my recollection, we were to take out eventually at what it cost.

Q. That is correct, you went there at his request?—A. I think it was at his request; I think it was.

Q. I am speaking of your recollection?—A. I think it was.

Q. It was as a matter of fact one of the most difficult cuts on the whole job?—A. Yes, it was a very bad cut.

Q. Then you discussed the matter on the cut with Mr. Poulin, McFarlane and Dutton?—A. Yes.

Q. Who was Mr. Dutton?—A. Dutton was the sub-contractor; I have not got Mr. Dutton's name, but I think he was there. Mr. McFarlane and Mr. Hazelwood were there.

Q. It was then and there agreed upon between you and Mr. Dutton that you would recommend to the Commissioners that a special price be paid for taking out a portion of the cut?—A. Yes.

Q. Provided the contractor kept a full force on the work day and night, so as to rush it through?—A. Yes.

Q. And you instructed the local enginers to prepare a report on the cut?—A. Yes.

Q. Setting this out, and agreed that you would recommend that a special arrangement be made and an order in council obtained providing for that payment?—A. Yes, there were certain stations that were mentioned, between certain stations. It did not include the tunnel, but it included the cut which lay about east of the tunnel.

Q. Then Mr. Poulin did make a report on the 17th March, do you remember that?—A. I remember getting a statement; I cannot remember the date on which I got it.

Q. Shortly afterwards you got a statement explaining the situation, and you then reiterated your promise to recommend that price and to get an order in council approving it?—A. I do not remember promising to get an order in council, but that would have to be done.

Q. You recommended to forward the obtaining of the order in council, which of course, would be necessary to give validity to your arrangements?—A. I remember distinctly stating that the cut should be treated in that way, and of course as it was exceptional from the contract, it would have to go through the Commissioners to be approved by the Governor in Council, I presume.

Q. You understood that?—A. Yes.

Q. Of course that is obvious?—A. Yes.

Q. The contractor did go on on the strength of that arrangement—A. I believe so.

Q. And worked a full force day and night and the cut was practically completed in December, 1908?—A. I don't know the date it was completed.

Q. Completed a long time?—A. Completed long before the track got there.

Q. It has been completed for a long time now, for over one year?—A. Yes.

Q. Did you ever do anything about getting that agreement implemented?—A. No, I never completed it.

Q. Did you ever report it to the commission or recommend it?—A. I don't remember ever putting anything in writing. I may have talked it over verbally.

Q. You never did anything to implement your promise?—A. I don't think so, not in writing.

Q. Before going into the merits—there were a number of other arrangements of that kind which were made and which have not been implemented?—A. I don't know of a number of cases.

Q. Was not there some arrangement about rock in coffer dam, or something of that sort, rock under water?—A. There was that question of rock in excavation for foundations being paid for at three times the price of loose rock.

Q. Rock under water in foundations?—A. Yes.

Q. That is what I mean?—A. That was included in the subsequent contracts, but was not in the contract of McArthur and Macdonell and O'Brien.

Q. You did make that arrangement with the contractors didn't you?—A. There was some discussion with the Auditor General about it; he took the matter up I think and in a letter to the commissioners, I stated that I considered I had taken that view of it, that they should be allowed the same as the contractors who subsequently made contracts for similar work.

Q. But you never did anything further to implement that arrangement; that was practically an arrangement with the contractors before they went on with the work?—A. They had been going on with a lot of work prior to that.

Q. Then dealing with the specification of this Dutton cut, don't you think you should have done something more?—A. The reason I did not do anything more was there were some questions I took up in connection with the measurements. I cannot remember now definitely what they were.

Q. I don't see what the measurements had to do with it?—A. The measurements had to do with it.

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Q. I mean if there was a definite arrangement that there was to be a certain price that would have to be paid if it could be put through without—A. That was the bulk of some——

Q. It was so much per yard, $1.25 per cubic yard?—A. There was a certain amount of the work done previously to that, and there was a certain portion of the cut that was not included, an end of the cut, which went from a certain station to another station. I had some doubts as to whether there was not more included in the cut than was originally intended.

Q. Did you ever take any steps to resolve those doubts?—A. I cannot remember. I wrote several letters in connection with that, but I do not remember that.

Q. At any rate you never did anything previous to your resigning to get them straightened up?—A. No. I did not get them straightened up.

Q. Then to change the subject and returning now to your list of stations which you criticised in your Return on page 30, there are some five stations where you have the note 're-measure?'—A. Yes.

Q. Do you recollect now whether that means that you ordered the work to be re-measured or can you tell me exactly what it does mean?—A. It was meant that before any decision should be given, that they should be remeasured. That is my recollection.

Q. Well, do you know that these cuts were already under process of remeasurement under instructions of the district engineer?—A. I cannot say positively. I have some recollection that some one told me that they were to be remeasured or something of that kind; some of them, I cannot tell which ones.

Q. You were told that there were a number of cuts?—A. Yes, one cut. There may have been more.

Q. In respect of which instructions to re-measure had been given by the district engineer?—A. Yes.

Mr. CHRYSLER.—Are you speaking at 'B' or 'F?'

Mr. MOSS.—'F' I am speaking of.

Mr. CHRYSLER.—Just above in 'B' there are a lot.

Mr. MOSS.—Yes.

Mr. CHRYSLER.—This refers to 'F.'

Mr. MOSS.—This refers to 'F.' Yes.

Q. The same thing was true on 'B' wasn't it?—A. Yes, there were some cases in 'B' too.

Q. Where instructions had already been given?—A. I don't remember whether instructions were given or not, but I know there were some places we thought should be remeasured.

Q. In the case, Mr. Lumsden, apart from the question of assembled rock and any dispute as to the interpretation of the classification, of a work of this magnitude you would expect a certain difference of opinion between engineers?—A. Yes.

Q. As to classification, and you would expect to find possibly certain discrepancies, or certain inaccuracies, possibly in the measurement, &c.—A. Yes.

Q. You could not expect to find the work perfect?—A. No.

Q. And to sum up, and speaking broadly, is it fair to say that the whole result of your arbitration trip, such as it was, was simply, apart from matters which might arise in any inspection trip, to convince you that you were at loggerheads with your engineers as to the interpretation of the specifications?—A. I did not agree with them in classification, that is the whole thing.

Q. That is really the core of the whole matter?—A. Yes.

Q. And that is the real thing that led to your resignation?—A. Yes.

Q. Mr. Lumsden, in regard to the taking of these depositions by the engineers, is it not a fact that while the examinations were going on Mr. Schreiber interrupted several times cutting short the explanations of the engineers?—A. Well, I can't recall it to my mind.

Q. And instructed the stenographer to cut out certain portions of their explana-

tions?—A. Well, no, I don't recollect it, I won't say it wasn't so, and I can't say it was, I don't recollect it.

Mr. Moss.—That is all, Mr. Lumsden.

By Mr. Chrysler:

Q. I wanted to ask you, Mr. Lumsden, two or three things only, one of them about the quantities or estimate as to cost prepared before the letting of the contracts. That was done, I think you said, under your instructions?—A. Yes, that was immediately prior to the contracts being let.

Q. Now when were those contracts let? The two contracts most in evidence here, the contract of McArthur on District 'F,' and the contract of Macdonell & O'Brien on District 'B,' were among the first, I think?—A. They were the first.

Q. They were naturally the first?—A. They were to my recollection the first.

Q. Do you remember when they were let?—A. I think it was early in 1906.

Q. We can get that date supplied perhaps, but I don't think it has been given in evidence yet.

Mr. Macdonald.—No, but it would be desirable to have the date and the date of beginning the work, and some facts like that which would stand out as an index.

Mr. Chrysler.—Yes, we have nothing here, until the examination of the work beginning in 1907.

Mr. Macdonald.—Yes, we want a sort of chronological story.

By Mr. Chrysler:

Q. Can you say that from your notes or by relying upon your memory? Or perhaps we will have to get it?—A. I think you may get it much more reliable from the Commissioners, I haven't the exact dates regarding the contracts.

Mr. Macdonald.—Mr. Smith will arrange to get that from the Commission, no doubt, so as to get on the records a statement showing the dates of each of the successive steps in regard to these particular contracts which are referred to in Mr. Lumsden's letters.

Mr. Smith.—There will be no difficulty about that?—A. Oh, no, there will be no difficulty about that, the Commissioners have it.

Mr. Chrysler.—You see, Mr. Chairman, it is not advisable to delay asking Mr. Lumsden for his memory about these dates.

The Chairman.—No, no.

Mr. Chrysler.—But I want to get from him before his examination concludes his personal knowledge about the step taken to ascertain the quantities. We will get the dates in connection with that later on.

By Mr. Chrysler:

Q. Now the quantities, as has appeared in this examination, have been made the subject of some Return to the House and have been quoted. The quantities and the estimated cost of which you have been speaking, prepared before the contracts were let, were not prepared for the purpose of any return to the House, I suppose, they were made for the purpose of affording information upon which to determine between the different tenders?—A. Yes.

Q. That is correct?—A. That is correct.

Q. It is that information about which I want to ask you. Now what information did you obtain prior to inviting tenders because you would have that information would you not before inviting the tenders, or was it had in the interval?—A. We had most of it before, but some of it may have come in in the interval. The surveys were all going on at that time, some location, some final location, and some preliminary.

Q. And how much was final? In which districts had you final location at that time?—A. I think we had final location of portions in both districts, finally located, but other portions were not.

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Q. On Districts 'B' and 'F.'?—A. On both 'B' and 'F.'

Q. Well this question is as to the whole estimate of the cost of the road so that we would like to know just where you stood with regard to the surveys upon the other districts as well, if you can tell us; how much final survey had you in your hands at that time?—A. Well, you are referring now to other contracts than these two?

Q. Yes?—A. In some cases we had a good deal more information, and in some cases we had about the same, that is we had longer time on the survey portions of it than we had on others.

Q. Yes, you have your districts run from 'A' to 'F'?—A. Yes.

Q. 'A' is——A. New Brunswick.

Q. And up to the boundary line?—A. To the boundary line of Quebec.

Q. To the boundary line between New Brunswick and Quebec. Had you complete information as to district 'A,' a complete survey?—A. At the time we were letting the contracts?

Q. Yes?—A. I think there were changes made after the contracts were let possibly.

Q. That is in 'A'?—A. In 'A'—I think there were in all of them possibly.

Q. Changes of location?—A. Of location, sometimes they were very slight and sometimes they may have been more.

Q. And in 'B'?—A. I think it was very much similar in 'B.'

Q. Partly finally located and partly located?—A. Even in places where we supposed we had final locations there were places where afterwards we found we could improve it and changes were made.

Q. And on portions of it you had only a preliminary survey even in 'B,' or had you?—A. I think that is possible as regards the first two contracts, but I think we had location on most of it in 'B' for the subsequent contracts that were let.

Q. A final location subject to the changes which were afterwards made before other contracts were let in district 'B'?—A. I think so.

Q. Then in 'C' had you any, say in the spring of 1906?—A. In 'C'?

Q. Yes, district 'C,' a final location survey of district 'C'?—A. No.

Q. District 'C' began at Weymontachene?—A. It began originally at Weymontachene and ran to near the east end of Lake Abitibi, east of the east end of Lake Abitibi.

Q. Had you a preliminary survey of the district?—A. I think we had a preliminary survey.

Q. So that your state of knowledge in the spring of 1906 as to district 'C' was that obtained from a preliminary survey only?—A. That may be the case, for the location was not finished until——

Q. When was the final location finished?—A. I don't think the location was finished until practically last January.

Q. January, 1909, it wasn't finished until then?—A. Not finally finished, there were some revisions made.

Q. There are some revisions still expected to be made?—A. Yes.

Q. In the final location of district 'C.' Well then district 'D' commenced at the east end of Lake Abitibi and went to somewhere east of Lake Nipigon, didn't it?—A. Yes, I should say to about—I can't tell the difference in miles.

Q. But some miles, perhaps a hundred miles?—A. Over a hundred miles.

Q. Over a hundred miles east of Lake Nipigon, and how far were your surveys complete on district 'D' in the spring of 1906?—A. I think we had location through most of it, but I am not positive.

Q. Was that preliminary or final?—A. We had a first location I think by 1906.

Q. A first location. Then district 'E' commenced east, a hundred miles you say east of Lake Nipigon and went to the eastern limit of district 'F' which has

been described, at a point——A. About the height of land, immediately west of the northwest part of Lake Nipigon.

Q. Had you a final survey of district E?—A. No, I don't think we had a final in 1906, not in the spring of 1906.

Q. When was the return prepared as to the estimate of which you were speaking the other day in reply to Mr. Smith?—A. I will have to look it up. I think it was in the fall of 1908.

Q. In the fall of 1908?—A. That is the $114,000,000 odd, I don't remember the exact amount.

Q. But you did not have any special examination made of the data, or was it compiled from the data which you had already gathered for other purposes?—A. That estimate was made out from the latest information we had at the date at which it was made.

Q. The date at which it was made and the degree of the advancement of that information would vary with each district and it would vary very much even on each district, wouldn't it?—A. How do you mean, vary?

Q. That is you had more complete information as to some districts than as to others?—A. Yes.

Q. And as to some districts you did not even have complete information?—A. No.

Q. In the autumn of 1908?—A. The autumn of 1908.

Q. For instance from what you have said you wouldn't have complete information, even the complete information that you would have before the contracts were let, as to district C, because you say the line was changed there?—A. I think probably since the spring of last year there have been some changes made in the location as to what were the first lines. I can't tell positively, I don't know.

Q. Well then, before letting the contracts in the spring of 1906 how much information had you with regard to the portion of district B and district F, of which we have been receiving evidence? What was the nature of the information that you obtained as to cost before inviting tenders?—A. We had a profile all the way through.

Q. Yes.—A. Some portions of which may have been only from the preliminary survey, but I can't——

Q. You are speaking now of portions of B and F on which you were going to let contracts?—A. Yes. I think most of it was located, but there may have been portions not.

Q. Most of it was located but there may have been portions not?—A. Not finally located.

Q. Not finally located. You had a profile all the way through and part of the profile may have been based upon——A. Not final locations.

Q. Locations which were not final. Now, you had a plan of course?—A. Yes, a plan accompanied it.

Q. A plan showing where the line was to go on the ground?—A. Yes.

Q. And the profile would show with such accuracy as the information in your possession would enable you to show it, the grade, the ups and downs?—A. Yes.

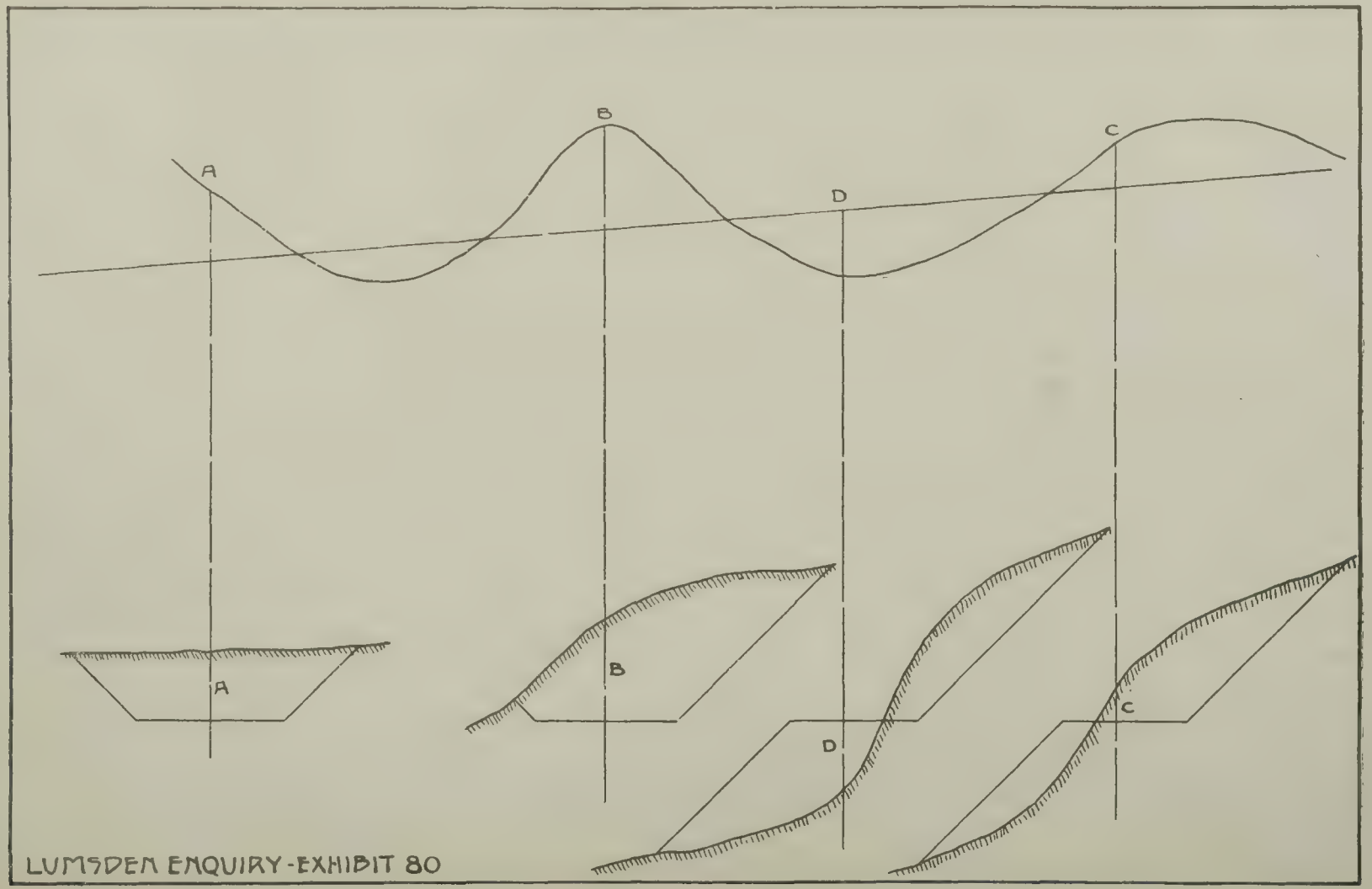
Q. Of the line. Is that on the profile, does it show the surface of the ground also?—A. It shows the surface of the ground, that is what it does, and the grade.

Q. Does it show the surface of the ground as completed also?—A. It shows the surface of the ground and the grade of the line it is proposed to build.

Q. So that it shows two lines, the grade of the completed line, and the actual surface of the ground so far as your information enables you to give it?—A. Yes.

Q. Well, would that be reasonably accurate if no change in the location was made?—A. Yes, it ought to be.

Q. It would correspond very closely with the quantity of material that you would have to remove if the line was constructed upon that?—A. Yes, provided there wasn't a great deal of side work in it.



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Q. These are the different things I was going to ask you about. Take the ideal case, if the location was not changed and your profile was correct you would be able to determine pretty accurately the quantities of material to be removed except for two or three disturbing factors. Now, one of them you say is, provided that there wasn't a great deal of side hill work?—A. Yes.

Q. Would you explain how that would affect it?—A. Because the profile shows the centre of the line, shows the grade proposed on the centre of the line. If there is a very steep side hill and it shows only two feet of cutting we will say, there may be 40 or 50 feet of cutting on the upper end of the slope.

Q. You might illustrate that by two or three illustrative sections. Take a sheet of paper and give us two or three typical illustrations of that.—A. (Drawing sketch). Supposing this to be the grade line, and this to be the surface of the ground, this is the grade of the centre of the line at that point there. (Exhibit No. 80.)

Mr. SMITH.—Could you illustrate by letters because when it is printed in the evidence unless you do so there will be no means of reference to the sketch.

The WITNESS.—I will show you a cross-section taken at 'A.'

Mr. CHRYSLER.—That is a normal cutting you are showing there?—A. That is a normal short cutting.

By Mr. Chrysler:

Q. With the same amount of bank on each side, corresponding with the height at the centre of the line?—A. On each side. That is 'A.'

Q. That is a cross-section of the line at point 'A' on the profile sketch?—A. This is the surface of the ground here, and this is the grade line (indicating).

Q. Now give us a sketch where it will work very low, and one where it will work very high, that will be sufficient. (Witness drafts cross-section). Now that is a cross-section of what you may find at the point 'B' on the sketch?—A. At 'B.'

Q. How will the excavation in that compare with the excavation in the normal cross-sections at 'A' ?—A. The quantity of excavation will be very much increased, but on the other hand there is another illustration you should have there; that shows a fill, but two feet from there you may be in a cut.

Q. Now call that 'D,' that is a point on the profile where you refer to. Now put a cross-section of what you say may happen at 'D.' (Witness draws sketch). That is a cross-section at 'D' ?—A. Yes, 'D.'

Q. Showing a considerable quantity of material to be removed. Now, on the profile at Point E there is apparently a fill?—A. Apparently a fill, but there may be a considerable cut.

Q. Well you might give us one more sketch showing at 'C' what would happen if the—— ?—A. If it went the other way?

Q. Yes, if it went the other way, if although apparently a considerable cutting there it flattened out?—A. Yes.

Q. And that shows a quantity of excavation much less than the normal?—A. Yes, but the quantity of filling might be very much greater.

Q. Yes, the quantity of filling might be very much greater. The source of error is that the profile only shows the height of the surface of the ground—— ?—A. At the centre of the line.

Q. At the centre of the line of railway.

By Mr. Moss:

Q. I do not quite understand that—this point here, that is shown here (indicating on sketch) ?—A. Yes, this represents the original surface of the ground, the shaded portion, this being the centre of the line here, that represents a cut of 8 feet, but 2 feet from that to the left it drops off into a big hole, and this instead of being cut through, as it is represented to be here, this has to be filled and becomes an embankment instead of a cutting.

Mr. CHRYSLER.—That is cross-section 'C' you are referring to. That is sufficient to illustrate it, the actual quantity as compared with the estimated quantity shown by the profile on the centre of the line of railway is liable to very considerable variation where there is much side hill work?—A. Yes.

By Mr. Chrysler:

Q. And that can't be estimated, it will vary so much with the different localities?—A. Yes.

Q. Then can you tell us another source of error?—A. Sink holes.

Q. Sink holes, now how does that cause error?—A. Well, the profile——

Q. Does the profile show no elevation and no fill, I suppose it might show an elevation instead of a fill?—A. The probability is that the profile shows three or four feet of embankment, and the quantities are taken out for that three or four feet embankment, but it is found afterwards, these surveys were made in the winter possibly, that instead of going down three feet it may go down 40 feet.

Q. It might be some old lake or bog which you call a sink hole, partly filled depression in the ground?—A. Yes.

Q. That will not appear until the ground is cleared?—A. Well, it might appear.

Q. If you say it happened because the survey was made in winter, it might appear next summer, but very often it would not appear until the actual work?—A. And very often the banks have been built and not gone down till years afterwards.

By Mr. Moss:

Q. Sometimes not till the track is in operation?—A. Frequently it has not gone down until the track has been in operation.

Q. You have a permanent crust on top and this sink-hole underneath?—A. Yes.

By Mr. Chrysler:

Q. Is there any other cause of variation in the quantity estimated? Of course you have already indicated in your evidence that when a change of location is made it may alter it?—A. Another thing is the information regarding the actual soil. A cut can be shown and it may be taken to be all sand, even on the location, and if test-pits have not been sunk, as they very often are, it may be an estimate of sand and may turn out to be four-fifths of it rock.

Q. And the quantity removed will be lessened by the fact that the slope is more nearly perpendicular in a rock cutting?—A. Yes, the total quantity.

Q. The total quantity of yards of excavation will be diminished by the change?—A. Yes.

Q. And in place of a quantity of earth a large quantity of rock will appear?—A. Yes.

Q. And the other way—where rock is exported and estimated for, if the rock is found not to be there, but a large quantity of earth excavation, the yardage is increased as you have explained?—A. Yes.

Q. By the fact that the slope is so much greater; that is shown in those photographs?—A. Yes.

Q. Well, in making the return, or estimating, I think you told us that you had your engineers send to you statements for the purpose?—A. Yes.

Q. You said something to Mr. Smith about having asked them in all the districts?—A. We got estimates from each district engineer of the proportion.

Q. That was through the district engineers?—A. Yes.

By Mr. Clarke:

Q. That is before the contract was made?—A. Before the contract was made.

Q. Are they the same engineers that had charge of the districts afterwards?—A. As a rule.

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By Mr. Chrysler:

Q. In district 'B,' Mr. Doucet has been there from the beginning?—A. He has been there from the beginning. Mr. Poulin has not (in district 'F.')

Q. Major Hodgins was formerly in District 'F'?—A. Yes.

Q. How about 'A' ?—A. Well, there has been a change in 'A' since the contract was let. Mr. Dunn was there first of all, and now it is Mr. Foss.

Q. Has there been any change in 'C' ?—A. No, except 'C' was short, I believe the same district engineer is there still.

Q. Who is that?—A. Mr. Molesworth.

Q. Molesworth has been moved, I think?—A. Well, I thought he was still there; I don't know.

Q. Mr. Doucet says he is District Engineer for 'C'; and who is engineer of 'D'?—A. Mr. McFarlane was, but I am not sure if he is still there or not.

Q. Was there any change made in 'D' while you were chief?—A. Yes. Mr. Poulin was originally on 'D.'

Q. Mr. Poulin was the engineer first appointed in 'D' ?—A. Yes.

Q. And he took Major Hodgins' place in 'F' ?—A. Yes.

Q. Then Mr. Poulin was probably the District engineer in 'D' when estimates were made, in fact before the contracts were let?—A. I don't recollect; I think so.

Q. And who was district engineer in 'E'?—A. Armstrong was the district engineer in 'E.'

Q. What is his first name? Is it Harry?—A. No, no, not Harry; I forget.

By Mr. Moss:

Q. T. Armstrong, is it?—A. No.

Mr. POULIN.—T. S.

WITNESS.—T. S.; that is it.

By Mr. Chrysler:

Q. Has there been any change there?—A. No. Not that I know of. I can't recollect whether Mr. Armstrong was there when the first estimate was made, before the contract was let, because Mr. Perry was on that district, but he died; I don't recollect definitely whether Mr. Armstrong——

Q. Now, the details of the calculation of $114,000,000. Have you got those in your possession?—A. No.

Q. Or are they in the possession of the Commissioners?—A. They are in the possession of the Commissioners.

Q. So far as you are concerned in making your estimate was it correctly made according to the best of your information, which you had or could obtain at the time? —A. Yes.

Q. And according to the best of your judgment in regard to it, based upon such information?—A. Yes. That is my recollection of it.

Q. Did you tell us when you were appointed?—A. My recollection of it is August, 1904.

Q. And you were constantly the Chief Engineer down to the time of your resignation?—A. Yes.

Mr. CHRYSLER.—I think that is all, Mr. Lumsden, that I have to ask you now. I was going to say that Mr. Grant has given some evidence, and possibly evidence may be given by other engineers during the course of the investigation, which you would probably desire to make some explanation or reply to, and of course you can take your own course about it, but it will all be printed and you can read it over at your leisure and just see if there is anything that you would like to say in regard to it. You were not here last night; that is the reason I mention it. Mr. Grant referred to some matters that you would probably like to consider, and, apart from anything

personal to yourself, we might desire to call you in reply to the statements of the engineers that we have not heard yet; but that is all that I have to ask you just now.

Mr. MACDONALD.—There are one or two questions I would like to ask Mr. Lumsden.

By Mr. Macdonald:

Q. Mr. Lumsden, I was just wanting to see if we could get some fair statement about some things that have been before the House in regard to this question of the estimates. I find that on April 4, 1908, Mr. Ryan, Secretary of the Commission, furnished to the Minister the following information:—that the total length of the line from Winnipeg to Quebec would be 1,803.55 miles and that the average cost per mile would be $63,427, and the total estimated cost, not including the Quebec bridge or the terminals at Winnipeg or shops east of Winnipeg or terminals at Quebec, would be $114,393,765.85?—A. I beg your pardon; is that in April, 1908?

Q. Yes.—A. Well, I stated that I thought it was in the fall of 1908, and that ought to have been April. That is the estimate that I referred to in figuring with Mr. Chrysler.

Q. In 1908?—A. Yes.

Q. Now, Mr. Lumsden, the total length of that Transcontinental was stated to be 1,803.55; the matters in regard to which your criticism particularly applied related to the contract of J. D. McArthur, which is contract No. 21, as I see by the Return, and to the contract of Macdonnell & O'Brien in section 'B'?—A. Yes.

Q. Now, there are two contracts, numbered 12 and 13 in this Return, of Macdonell & O'Brien; will you just look at it and see which one of those contracts it is to which your criticism relates? (handing witness Return).

Mr. MOSS.—There are three Macdonell & O'Brien contracts there.

Mr. MACDONALD.—Yes, but two in 'B.'

WITNESS.—It is No. 10.

By Mr. Macdonald:

Q. Would you tell me, by looking at that Return, what the mileage in No. 10 would be?—A. 100.1 the mileage appears to be.

Q. And then the McArthur contract, the mileage?—A. I make it 247 with a decimal point.

Q. We understand that as regards the rest of the district, whatever criticism you may have had does not relate to that, but to these particular contracts?—A. No.

Q. In this letter of Mr. Ryan's he says, referring to this estimate of $63,427 per mile, 'this estimate is based on quantities as estimated by district engineers, and contract prices so far as contracts have been let.' Now, that estimate, which of course you made up, I assume to give to the secretary, you stated there was based on estimates made by the district engineers at that time?—A. Yes.

Q. And they would be the ones who could best tell us as to the conditions in which the estimates would be made I suppose?—A. Yes.

Q. You simply made up—A. Summarized them.

Q. Who would be the two district engineers at that time who made the estimates—first in section 'B,' Macdonell & O'Brien; who was the district engineer who made them?—A. Mr. Doucet.

Q. And in section 'F'?—A. It would be Mr. Poulin, I think. It was Mr. Poulin who made up the second one that we drew.

Q. I recall in the Hodgins' committee that Major Hodgins had made the estimates?—A. Oh, yes. That was the one made when the contract was let. We had a revision of portions of them made subsequent to that, which were to the best of my recollection included in that estimate you are now speaking of.

By Mr. Moss

Q. A revision was made by Mr. Poulin?—A. I think so.

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By Mr. Macdonald:

Q. So that the preliminary estimate on which the tenders were called for in section 'F,' or in contract No. 21 would be made by Major Hodgins?—A. Yes.

Q. That estimate was subsequently revised by Mr. Poulin when he took charge?—A. Yes.

Q. And Mr. Doucet would be responsible for the estimate in contract No. 10, section 'B'?—A. Yes.

Q. Do you recall whether in the time you were Chief Engineer, you ever made any subsequent estimate for the information of the House, which you furnished? I have seen it stated here, in a debate in the House on the subject, that no estimate had been made since that time?—A. I don't recollect of any.

Q. This is the statement—'The estimate made by Mr. Lumsden was about $63,000 a mile, and no change has been made in that estimate since?'—A. I don't recollect of making any amendment.

Q. That estimate referred to, $63,500 a mile, would be the estimate which I am speaking of?—A. That is the last total estimate I recollect.

Q. Now, there were changes in location, I suppose, during the course of the construction?—A. Oh, yes, on both these sections.

Q. And I suppose that estimate of $63,427 a mile did not take into consideration any of those conditions which might result in increased expenditure, some of which you have referred to?—A. Well, that was made after a good deal of construction had been done on those two, and a portion of that would be taken into consideration. The work that had not been done wouldn't be.

Q. Of course, you yourself did not make the experimental and actual examination on which any of those figures were based?—A. No.

Q. You simply took the data furnished you by your subordinates?—A. Yes.

Q. And you are unable to say of your own knowledge as to what extent that examination was actual or definite; you had to rely on what they said?—A. Yes, certainly.

Q. Do you know of any test pits ever made by them?—A. I can't personally remember.

Mr. Moss.—I think Mr. Lumsden told us that no instructions were given by him to dig test pits.

Mr. Chrysler.—I think that is already in.

Mr. Moss.—They would cost more than to build the railway.

By Mr. Macdonald:

Q. Then I suppose Mr. Poulin and Mr. Doucet are the gentlemen who can tell us as to the accuracy or sufficiency and completeness of those estimates in those particular contracts better than any one?—A. They know all the details; I don't.

Q. And they can give us all the data?—A. Yes.

Mr. Smith.—With the permission of the committee I would like to ask one or two questions.

By Mr. Smith:

Q. If my memory serves me, Mr. Lumsden, I think you told us that the standard of construction in this country up to the time of building this Transcontinental was one per cent grade?—A. Well, I don't think I said there was; I said I thought there was no standard, but that the common practice was to build it to one per cent grade.

Q. Have you any knowledge of any railway, previous to the Transcontinental, being built on a four-tenths grade?—A. Not of the length of the Transcontinental.

Q. Some railways since this Transcontinental was begun have adopted a four-tenths grade and have improved their roads accordingly?—A. They have. Some of them have gone finer than four-tenths.

Q. But up to the time of the building or the commencement of this Transcontinental, do you know of any railway in Canada that was constructed on any such high standard as a four-tenths grade?—A. I won't say that the Michigan Central in portions in south-western Ontario may not have been built to those grades; but those were exceptional, and only comparatively short distances.

Q. I asked you to go over your notes and tell us what diggings you had made on District 'B' when you were visiting District 'B' with the other arbitrators?—A. I think I explained to-day that the only place of digging was one referred to—

Q. I did not hear your evidence on that?—A. I thought there was some diggings; I remember one digging.

Q. Mr. Grant was questioned by Mr. Chrysler last night upon a letter dated August 26, 1909, addressed to Mr. B. B. Kelliher, Chief Engineer of the Grand Trunk Pacific Railway, which was not put in as an exhibit, but is on page 46 of the Return, Sessional Paper 42*a*, in which Mr. Grant says that the Commissioners of the Transcontinental Railway objected to and protested against the proceedings of the arbitrators as being improper and illegal for the following reason, viz.:—

(A) That they were based in whole or in part on a draft agreement dated May 14, 1909, which had been rejected, and which had no existence in fact.'

We are not, of course, concerned in the proceedings of the arbitrators further than your opinion may have been influenced by those proceedings and by what you saw and did upon the inspection made with those other arbitrators. I ask you whether the other arbitrators had with them copies of the draft agreement which had been rejected by the Transcontinental Commissioners?—A. Not that I know of, they may have had; I don't recollect ever seeing them.

Q. If they had, that would naturally influence their views and influence their proceedings upon that tour of inspection in which you participated?—A. I never recollect that second agreement being mentioned by them, that draft agreement.

Q. Exhibit 28, which is found on page 174 of the proceedings before this committee, is a short letter from yourself to Mr. Chamberlin, in which you state that the proposed agreement covering matters of arbitration was brought before the Commissioners, and they were of the opinion that such agreement was unnecessary; that all that was required was for the three engineers to proceed under clause 7 of the agreement?—A. Yes.

Q. That was the letter of May 15, 1909, informing the vice-president of the Grand Trunk Pacific that that draft agreement was rejected by the Commissioners? —A. Yes.

Q. Well, there is a letter from you to Mr. Collingwood Schreiber, which reads as follows:—

EXHIBIT No. 82.

May 17, 1909.

'DEAR SIR,—Herewith please find copy of proposed agreement as submitted by E. J. Chamberlin in a letter to me dated 14th inst.

H. D. LUMSDEN.'

A. Yes.

Q. Why did you send that draft agreement, which two days previously you had informed Mr. Chamberlin had been rejected by the Commissioners, to Mr. Schreiber? —A. I can't recollect my reason, except I presume I had told him that there had been such a thing, and he asked to see it. I have no positive recollection of it.

Q. Of course you will agree that if they had acted under that draft agreement the proceedings would have been very different, wouldn't they?—A. Yes, but that agreement never was signed by any one——

Q. It was signed by the Grand Trunk Pacific?—A. Yes, but never signed by any one on behalf of the Commission.

Q. And if that agreement were made in any sense a guide to the proceedings, those proceedings would have been very different?—A. Oh, yes.

Q. What I wanted to get was why you should put Mr. Schreiber in possession of that two days after you had informed the Grand Trunk Pacific that it was rejected?—A. I can't say positively, but I imagine I may have told Mr. Schreiber they had submitted such a thing, and he asked to see it. I can't remember any details.

Committee rose at 12.45.

THURSDAY, April 14, 1910.

The Committee resumed at 3.30 o'clock, the Chairman, Mr. Geoffrion, presiding.

The examination of Mr. GORDON GRANT resumed:

By Mr. Smith:

Q. Mr. Grant, you were asked the question, what was assembled rock, particularly in the light of the interpretation of January 8, 1908, and I think you told us that you could not tell?—A. I cannot tell what Mr. Lumsden meant by assembled rock.

Q. Could any resident engineer tell definitely from Mr. Lumsden's interpretation accompanied by his blue print, what was meant by assembled rock?—A. I don't think he could unless Mr. Lumsden took the trouble to explain it to him.

Q. But Mr. Lumsden was not in contact with the resident engineers to any extent?—A. No. He was not except when he was out on the work.

Q. On the arbitration?—A. No. Before that he was over the line in many cases in several trips in 'B' and 'F' and also in 'A.'

Q. I think he told us he had only made two visits which he describes fully in his evidence?—A. Well, I was with him twice in 'B.'

Q. As a matter of fact, did Mr. Lumsden give any instructions as to the meaning of assembled rock?—A. Not to my knowledge to any one on the work.

Q. You were, as you told us, assistant engineer and Inspecting Engineer?—A. Yes.

Q. If any instructions had been given by Mr. Lumsden would they be within your knowledge?—A. Well, I have never met an engineer who admitted having got any instructions from Mr. Lumsden on the question of classification, and I asked them all both as inspecting engineer and since I have been Chief Engineer.

Q. Did Mr. Lumsden ever make it clear to you yourself what he meant by assembled rock?—A. No. And I asked him on several occasions to do so.

Q. And I think you told us yesterday that you had drawn his attention to the fact that there was great diversity of opinion among the classifying engineers as to what was meant by assembled rock?—A. I did.

Q. If I remember well you said probably a year before this question of arbitration?—A. In the month of August, 1908, after returning from a trip on District 'B.'

Q. And notwithstanding that you had brought this to his attention did he take any steps to put beyond doubt the meaning of his interpretation or his blue print?—A. Not that I ever heard of.

Q. You were in a position to hear of it if it had ever been done, were you not?—A. I would have found out from the engineers if he had written any letters to that effect. There are no letters in the office on the file.

Q. And he was not over the work to instruct them personally?—A. No. Not between the month of August, 1908, and the month of July, 1909.

Q. We have heard some discussion by Mr. Lumsden on the question of what proportion of rock there ought to be in the formation that has been called assembled rock. Did you ever have any conversation with him as to what proportion of rock there ought to be in that assembled rock?—A. I am not prepared to swear that I did, but I am under the impression that I did have a conversation with Mr. Lumsden as to what proportion he was willing to allow. I do not just remember, that is, I do not—

Q. Not sufficiently well to say?—A. Not sufficiently well to say I did. I am under the impression that was discussed between Mr. Lumsden and me after having discussed it with Mr. Doucet in Quebec.

Q. It is reasonable for you to be very guarded in giving your evidence, but will you tell the members of the committee what knowledge you have as to the question being discussed among the engineers and as to any result or any resolution of the question among them as to the proportion of rock that there ought to be in assembled rock?—A. Well, that has been discussed on the work, but so far as I am concerned I would be willing to allow a mass that is sufficiently hard to justify continuous blasting to remove it if the proportion of rock in it was anywhere from fifty to a hundred per cent. I would be more guided by the difficulty of removing it than by quibbling on the percentage of rock, provided it was above fifty.

Q. In the specification where the word 'masses' is used, and in the interpretation given by Mr. Lumsden there is nothing said about rocks touching each other, is there?—A. No. There is not.

Q. Can you say as an engineer what would be the cost to a contractor dealing with that material and whether that cost would depend upon whether the rocks were touching, or whether it would depend upon the solidity, and the hardness, and the resistance of the mass?—A. Well, this so-called assembled rock in many cases is much more costly to drill than ledge rock because the hole fills up and you have to perhaps put in two or three different holes before you get one deep enough to be effective, and the others are lost through the drills either sticking or some other thing.

Q. That increase is not the case with solid ledge rock?—A. No. While you may lose a hole in ledge rock, assembled rock does not blow as satisfactorily sometimes as ledge rock does. You may lose on it from that cause.

Q. You may lose the blasts?—A. Yes.

Q. Mr Chrysler has suggested to me to ask you, supposing you had that formation and you had got a hole drilled, what would the length be of such a hole?—A. The depth, you mean?

Q. Yes. Ten feet?—A. Anywhere from ten to forty.

Q. Do you drill forty feet?—A. Yes.

Q. For a blast?—A. Yes.

Q. Well, then, supposing you had a drilling that was more than ten feet, we will say anywhere to twenty feet, and you had in that hole a blast where there was sand. Supposing it was in layers of assembled rock, what would be the effect upon your blast if the softer material was half way down?—A. Well, I would not say it was sand, but the drill might be down twenty or thirty feet and then strike a very hard boulder and it would glance to one side.

Q. But what I want to get at is the effect of the blast. Where would the blast spend itself supposing you had it going down through several layers of assembled rock?—A. All blasts follow the line of least resistance.

Q. They follow the line of least resistance. And if you had some softer material in it?—A. You would lose your blast.

Q. To that extent?—A. Yes.

Q. Now, supposing you were to adopt a standard that there should be fifty per cent of rock in what we term assembled rock, would you then be able to say as to the classification if it came under your notice, if it was within your knowledge?—A.

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Well, I don't catch your question exactly. What classification do you refer to, over-classification?

Q. Yes. You told us last night that you were persuaded that there was some over-classification?—A. Yes.

Q. Well, now, it is my duty to get at that as far as it is possible to get at it. Would that over-classification still be in existence if you had adopted a standard of fifty per cent of rock in the material?—A. No. My reference to classification has nothing to do with the percentage of rock in the mass. It has to do with the insufficiency of cemented material to justify continuous blasting of the material in my opinion.

By Mr. Macdonald:

Q. What you mean to say is not so much over-classification as mistaken classification? It may be over in some instances and lower in others?—A. Yes.

Q. That is it, is it?—A. Yes. You will get under-classification on the same engineer's work as you will find over-classification, all due to the hardness of the material in my opinion. Some of it will be harder. And they lower the classification at other cuttings where it is softer. I don't refer to the percentage of rock in the mass at all.

By Mr. Smith:

Q. I see. Well, now, to be fair to the engineers who did the classifying. If you had a hole drilled, and you say it goes to forty feet sometimes, but I take it that would be the extreme. Supposing it went to twenty feet?—A. Yes.

Q. And the blast is put in and exploded. That would move a large amount of material, would it not, put in there at twenty feet if the blast went off properly?—A. Oh, it would move anywhere from ten to a thousand yards.

Q. Supposing that it removed five hundred yards?—A. Yes.

Q. Of course the engineer does not see the core of the drilling itself, does he? He is not able to tell until it goes off, except by exterior examination?—A. That is all. He sees it before the blast went off and he sees it afterwards.

Q. And all he has to guide him is the impression he can form before the blast goes off and the ragged sides and bottom after it has gone off?—A. Yes. And the loosened up material.

Q. And the loosened up material?—A. In the body of the cut.

Q. If the blast is in what you call assembled rock it would be considerably disintegrated, would it not?—A. Yes, it would. That is what it is blasted for.

Q. Well, then, doesn't it come down to this, that an engineer on the ground has to use his judgment?—A. Guided by the judgment of his superior officers when he is in doubt.

Q. But I should think with respect to particular blasts if they are put in to that depth and remove a thousand yards of material—that is a large amount of material—it would be very difficult in examining the material after it has been shattered by a blast to determine how closely that was assembled before the blast? Would it not be very difficult for any engineer, experienced or inexperienced?—A. Well, that is what they are there to do, that is what they are paid for doing.

Q. Yes, but from your experience and knowledge as an engineer, Mr. Grant, wouldn't you agree with that, that it would be very difficult indeed? It is not an easy job classifying that mass of material?—A. No. That is what made all the trouble, not being an easy job.

By Mr. Clarke:

Q. Where is the blast put?—A. Sometimes they go back to a certain number of feet and put them down vertically. Occasionally they bore horizontally from the face of the cut in.

Mr. SMITH.—What Mr. Clarke wants to know, I think, is whether you put the blast in at the extremity of the boring, in the middle of the boring, or half way.

By Mr. Clarke:

Q. Where it is put in horizontally, will one blast do for the cut?—A. No. They put from one to three.

Q. That would allow from six to ten feet.

By Mr. Smith:

Q. But between the blasts?—A. There would be twenty feet between the two outside blasts.

By Mr. Clarke:

Q. I mean if the blast removed rock for twenty feet?—A. Back from the face? Do you mean six feet back from the face of the cut?

Q. No. Six feet from where you put in the blast. It will move six feet on each side of the hole where you put in the blast?—A. Yes.

Q. It will move six feet of rock?—A. Yes

Q. Six feet and upwards?—A. Yes.

Q. On each side?—A. Yes.

By Mr. Smith:

Q. When you spoke in reply to Mr. Chrysler last night of what the error in classification in your opinion consisted of, you said that in estimating the percentage of rock, of solid rock, in this massed material, that the engineers would return 70 or 80 when it was 30 or 40. You were not then speaking of actual facts but of what might be mistakes?—A. I was merely illustrating.

Q. You do not say they ever did classify 70 or 80 per cent where there was only 30 or 40?—A. No. I do not.

Q. Then, this term 'assembled rock' you told us is something new in railway classification?—A. I never heard of it before that blue print came out.

Q. When we adjourned yesterday I was asking you whether this assembled rock was met with very frequently in this country. I would like if you can give us a little more light on that. Is it peculiar to the Laurentian formation or would you find it in building a railway in the United States, for instance?—A. Well, I worked several years in the United States and I never saw one yard of it, and I never saw a yard of it in British Columbia where I worked three or four years.

Q. So I take it then that it is perhaps peculiar to this northern country?—A. It is peculiar to the Laurentian range so far as I know.

Q. And how did the quantity of assembled rock in the two districts that we are dealing with especially, District 'F' and District 'B' compare?—A. Oh, there is very little of it in District 'F' compared with District 'B.'

Q. I have the impression, and I think I am right, that the only trouble there has been in District 'F' was on the McArthur contract. Is that right?—A. There is no trouble in District 'F' to-day except on the McArthur contract.

Q. The ledge rock, I understand, has been in all cases measured and no possible question has arisen with regard to the ledge rock?—A. There is no dispute on ledge rock.

Q. And from your own observation in your various capacities and since you have been chief engineer, going over the ground and from all the personal knowledge that you have on the subject, is there any reason to suspect that the ledge rock has ever been wrongfully classified?—A. You could not classify ledge rock wrongly.

Q. It is measured afterwards?—A. Yes.

Q. Now, on the McArthur contract—if you do not know of course you will tell us so—can you give us an idea of the proportion of ledge rock and of assembled rock?

—A. Well, so far as I am concerned, this question of over-classification to me is a tempest in a tea-pot, and to illustrate that let me take the McArthur contract: There have been 15,200,000 yards of material moved on that contract.

Q. 15,200,0 0 yards?—A. Somewhere about that. About 6,300,000 yards of solid rock. Now, about 350,000 yards of that is assembled rock and no more. Therefore if the whole mass was disputed, which would be absurd, you would not have much to kick about.

Q. Out of 6,300 000 yards of rock there is only how much of assembled rock?—A. About 350,000 yards.

Q. About 350,000 yards?—A. That is all they can dispute.

Q. And there is no dispute about the rest of the rock? The only dispute is about assembled rock?—A. So if you turned the whole thing into loose rock, which I say would be absurd, on the face of it you would not have more than 300,000 yards to kick about.

By the Chairman:

Q. And if you turned the whole of it into loose rock?—A. It would make a dollar a yard difference. Less than a dollar, it would be 90 cents.

By Mr. Smith:

Q. And you say it would be quite absurd to do that?—A. There is no engineer would think of doing that, I don't care who he is.

Q. You mean that if the whole of what has been returned as assembled rock were put in as loose rock?—A. Yes. The rest is not disputed.

Q. There is no dispute concerning the rest?—A. And then what of the disputes? There is no dispute except by Grand Trunk engineers who are paid to dispute these things, that is what they are there for. They will dispute and the whole dispute is based on their letters; and I say if they disputed the whole thing you would not have much more than $300,000 to dispute over.

Q. Now, Mr. Grant, since you have become Chief Engineer I think you told us that you had taken steps to correct anything that in your judgment was over-classification?—A. Yes. Wherever I had a disagreement with the engineers on the ground, before giving any decision I would like to have the cuts remeasured so that there would be no injustice done to those engineers.

By Mr. Clarke:

Q. Is it only in 'B' and 'F' that this assembled rock occurs?—A. Well, there are some in District 'A.' In that district the Grand Trunk passed a lot of cuts and disputed them two years after they had passed them.

Q. But generally speaking, this assembled rock only occurs to any considerable extent in 'F' and 'B'?—A. Yes.

By Mr. Smith:

Q. You told us, Mr. Grant, that even with very experienced engineers making a very cursory and very superficial examination of cuts, such an examination as Mr. Lumsden has described to us as made by the arbitrators in the first arbitration, would be insufficient to form any opinion that would be at all reliable?—A. Oh, I don't think any engineer unacquainted with the work can go into those cuts now after they have been done for two or three years and form a judgment without considering very carefully what he is doing, and questioning the engineer who is on the ground, and getting all the information from him that is possible, and also examining the material in the fill that came out of that cut, because when you go in a cut you see the sides, you don't see the material that is taken out of it.

Q. But in the investigation I want to be absolutely fair to the engineers and to everybody concerned. Doesn't it occur to you that when the engineer gets there to revise the work of the resident engineers that his revision must be rather an unsatis-

factory thing if he has to rely upon the statements of the men whose work he is revising?—A. Not at all. Then you would question the statements of the men whose work is being revised.

Q. But would not the men whose work is being revised naturally incline to support the work they had done?—A. Not necessarily. I didn't find any trouble in getting what I was sure was the truth out of the engineers when I condemned their classification.

Q. When you condemned the classification you found the engineers still willing to give you——A. Every information.

Q. Every information and to answer your questions?—A. Yes.

Q. In a manner that convinced you that they were speaking truthfully?—A. Yes. And I succeeded frequently in convincing them that they had been mistaken.

Q. Now, Mr. Grant, admitting that your information was wider and more complete than the information of Mr. Lumsden and the other arbitrators, would the knowledge that you would acquire on an examination later on be sufficient to enable you to form a satisfactory opinion—an opinion satisfactory to yourself as an engineer?—A. With reference to the work?

Q. Of classification.—A. Well, take for instance District 'B,' I know that thoroughly both as assistant district engineer and as inspecting engineer.

Q. Will you allow me to put the question to you in this form, Mr. Grant: When you have undertaken to condemn a classification in District 'B'?—A. Yes .

Q. Is not your action founded more upon the knowledge, the personal knowledge, which you acquired on the ground as assistant district engineer and as inspecting engineer than the knowledge that you acquired from an inspection of it now?—A. Yes, I say it is almost entirely founded on the knowledge that I had before I was made Chief Engineer.

Q. And knowledge which I think you told us you had communicated to Mr. Lumsden?—A. Yes.

Q. Supposing you had never been on that district at all and you were asked to go there now—supposing you had no preliminary information and you were asked to go there and to act as arbitrator or to form an opinion as to the classification without ever having been over it before, could you possibly have founded any opinion that you would rely upon?—A. I could not in the majority of the cuttings.

Q. You spoke of some cases where the wall remaining after the excavation would show distinct lines between the ledge rock and the assembled rock. Would not that be very exceptional?—A. Yes, it would be exceptional.

Q. And supposing in these exceptional cases where the line would be a line of clear demarcation, that would indicate definitely and conclusively what was the amount between the two walls before it was removed, would it?—A. Then there could not be any harm done if I, or any other arbitrator, were to allow it all as solid rock there would be nothing to dispute. I am willing to allow that as solid rock, therefore there would be nothing to dispute; the question would not arise.

Q. In such a case as that?—A. Yes. There would be no dispute.

Q. And I suppose in a great many cases the line would not be so clearly marked?—A. No.

Q. And it would be very difficult even by measurements to say that that classification was absolutely wrong?—A. You have to be guided to a certain extent by the material in the banks that came out of the cut. It is just as important to examine them carefully as it is to examine the sides of the cut.

Q. Now, I wish to put a general question to you, Mr. Grant: You have found fault with some of the classification and you have taken steps to rectify it?—A. Yes.

Q. While acting as assistant district engineer or as inspecting engineer or as Chief Engineer, did you ever acquire any knowledge that would lead you to suspect the good faith of any of the engineers classifying?—A. I did not.

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Q. There may have been some errors of judgment, but you are satisfied that there was no bad faith on the part of the engineers classifying?—A. I am perfectly satisfied. The proof of that is that the same men are on the line to-day, and if I suspected them of bad faith they would not be there.

Q. And you have spoken of this whole matter of classification as being in reality a tempest in a teapot?—A. That is what I consider it.

Q. Bearing so small a relation to the whole amount?—A. The quantity in dispute is so small compared to the enormous quantity of material that has been moved on the line. There is a mistaken idea as to the question of classification.

Q. Now, with regard to the position of the Transcontinental Commissioners, first, let me ask you how long you have been Chief Engineer?—A. Since some date in July, I don't remember; in fact I never heard the date I was appointed Chief Engineer; about the 20th July.

Q. Did you ever know since you have been Chief Engineer or when you were inspecting engineer or assistant district engineer, did you ever know of the Commissioners or any one of them interfering with engineers in matters of classification?—A. I did not.

Q. Did you ever hear such a thing suggested?—A. No.

Q. I would like to ask a question or two about overbreak. You were of opinion that too much had been allowed for overbreak?—A. I am of opinion that overbreak to a certain extent, has been returned in District 'F' which was due to excessive blasting, or the necessity for the removal of which was caused by excessive blasting.

By Mr. Moss:

Q. I understood you yesterday to say not that you had come to that conclusion, but that there were certain cuts you had reserved for further investigation. I understood you had not passed on any of those overbreak cuts?—A. I passed on them all.

By Mr. Smith:

Q. I know that no question that I can ask you will alter your opinion in the slightest, Mr. Grant, but for the sake of information I would like to ask you one or two questions about overbreak. The term itself is not an engineering term.—A. Yes, it is an engineering term, but it is used by us because the definition in the specification is too long to use, and we simply call it overbreak to save time.

Q. Then it is more a colloquial term among engineers than a scientific term?—A. Yes.

Q. And it is used to describe the material that is removed outside the theoretical slopes, is that it?—A. Yes.

By Mr. Clarke:

Q. Take a deep cut 18 or 20 feet, would you put more than one blast in that cut vertically?—A. Yes, we generally put two.

Q. One above the other?—A. Each one about 9 feet on the side of the centre line. That would be 18 feet apart.

Q. Vertically?—A. Horizontally.

Q. One nine feet above the other?—A. No, one 9 feet on one side of the centre line and one 9 feet on the other.

Q. What I mean is do you put one above the other in a deep cut?—A. That is what you call benching, taking it out in two lifts.

Q. At the top of the first one, and then the lower strata?—A. Yes.

By Mr. Smith:

Q. The material that is found, particularly where you have what we have now agreed to call assembled rock must vary very considerably in character, must vary in density, and must vary in solidity?—A. It also varies in the difficulty of removing it, which accounts for the trouble of classifying it.

Q. But dealing particularly for the moment with overbreak, would it be possible for an engineer and much less for a contractor, to determine with accuracy, just what amount of material will be removed by a particular b'ast?—A. Oh yes. The contractor's foreman, if he is any good, can tell within a few yards what his blast is going to do.

Q. Don't we have from time to time——A. They can load up pretty accurately, those fellows can.

Q. Yes, but Mr. Grant, don't we have from time to time accounts of blasts that fail and that were lost and we hear a good deal about blasts being lost altogether?—A. Yes, but the percentage of blasts that are lost is very small.

Q. Then we hear of other blasts that might remove ten yards and others that might remove a thousand yards?—A. When I say a b'ast will remove ten yards, it is put in to remove ten yards; when I say a blast will remove a thousand yards, it is put in to remove a thousand yards.

Q. Isn't it a fact that the quantity of material that will be removed by a particular blast must necessarily depend upon a great variety of conditions. There are seams, there are streams; there are little layers of clay between; there is sand between. Doesn't it depend on a great variety of conditions what amount a particular blast will remove?—A. No, the percentage of blast that does not do the work that it is put there to do is very small

Q. Do you suggest it is a matter of mathematical accuracy how much material you are going to move by a blast?—A. No, but I will say that a good rock foreman knows exactly what he is doing when he is putting in his blast. He very seldom fails.

By the Chairman:

Q. What wou'd be his purpose in making excessive blasts if he can tell what he needs for the b'ast? What would be his purpose in making an extra blast?—A. The hope of getting pay for extra material moved.

Q. In a case where there is bad judgment of classification?

Mr. SMITH.—This relates to overbreak; the classification would be something subsequently. We might have the overbreak in the case of ledge rock, or we might have it in the case of any other blasted material, material in masses, but what impresses me is that it must be a practical impossibility to do the thing with such scientific accuracy as to determine how much material is going to be moved by a blast, when there may be seams—there may be a thousand conditions which would affect the quantity of material moved by the blast?—A. That also depends to a certain extent on the rock. In some rock, no matter how well you are blasting, you will get much more overbreak than you will in another kind of a rock. For instance, in granite you will get always more overbreak than in limestone.

Q. Is not granite the hardest?—A. Yes, but it breaks unevenly. Limestone will cut almost as flat as the table and the granite will not.

Q. In the case where the material is more refractory the more overbreak you will get?—A. Yes. You will get more overbreak in granite than in limestone.

By Mr. Moss:

Q. In the refractory material you allow the contractor for the irregularity of the break, don't you?—A. You are not as hard on him in granite as you would be in limestone.

By Mr. Smith:

Q. Would not you be a little harder on him to get down to the absolute fact, would not you be pretty hard on him if you held him too strictly,if you had varying material, as you have, in this formation?—A. You have to use your best judgment and that is all you can do.

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Q. Tell the hon. members of the committee how much does this overbreak amount to that you were of opinion was allowed in excess?—A. I cannot tell them that for that is in the hands of the arbitrators.

Q. You are quite right. Are you able to allay their fears to the extent of telling them whether it is a very serious matter or not?—A. I think they had better ask Mr. Schreiber.

Q. How much is there in dispute at all?—A. I cannot even say that.

Q. You mean you don't think it proper to say it?—A. Well, I don't know either.

Q. Well, in the matter of both over-classification and overbreak, I want to come back now to the position of the Transcontinental Commissioners. No final estimates have gone out with respect to any of this work in which there is in your opinion some over-classification and some excess of overbreak allowed. There are no final estimates gone out at all?—A. There are no final estimates gone out at all.

Q. It is all subject to revision and correction?—A. Yes.

Q. Now, the Transcontinental Commissioners have certain securities and guarantees. What do these guarantees consist of?—A. Practically speaking about three times as much money as there is in dispute on any contract.

Q. So that taking the extreme view of all the classification that is said to be over-classification, and of all the overbreak that is said to be allowed in excess of what ought to be allowed, the commission to-day has absolute security in cash?—A. For double the amount.

Q. For double the amount anyway?—A. Yes.

Q. And then, in addition, they have all the plant as security?—A. Yes.

Q. If the hon. committee will bear with me, I should like to ask me Grant a few questions following up what was said by Mr. Lumsden to-day, inasmuch as it is a matter of considerable interest to know why the cost of the road seems to exceed the original estimates, and I think it would probably be useful to the committee to have Mr. Grant's views on it.

Mr. MACDONALD.—Certainly, that is very important.

By Mr. Smith:

Q. Were you employed upon the Transcontinental in any capacity whatever when the first estimate was made by Mr. Schreiber? When I speak of it as an estimate, I do not mean an estimate after survey, I mean certain figures given by Mr. Schreiber?—A. No, I was employed at that time by the Canadian Pacific railway in British Columbia.

Q. Did it come to your knowledge that Mr. Schreiber had given figures amounting to $54,000,000 or $56,000,000 as the cost between Moncton and Winnipeg?—A. Only lately.

Q. When did you first hear of that figure?—A. I first heard it in a speech in the House of Commons.

Q. Then I suppose you probably are not able to say what that was founded upon?—A. I have no knowledge whatever how that estimate was made.

Q. That was a figure given—I am not giving evidence—will you tell us if that was a figure given after there had been any survey at all?—A. If you can tell me the date when that estimate was made——

Q. In August, 1903?—A. Well, then it was given a year before there was any survey made.

Q. A year before there was any survey at all?—A. Yes.

By Mr. Chrysler:

Q. Was it the time the Bill was under discussion.

Mr. MACDONALD.—Yes.

Mr. CHRYSLER.—That would be the summer of 1903.

By Mr. Smith:

Q. No survey whatever had taken place upon the ground?—No survey began if I remember correctly; the surveys began if I remember correctly in the fall of 1904.

Q. That would be at least a year or more than a year subsequently to those figures being given in Parliament?—A. Yes.

By Mr. Macdonald:

Q. Who was chairman of the Commission when you went into its employ?—A. The Honourable Mr. Parent.

Q. You were there under Mr. Wade?—A. No, I went there in May, 1905.

Mr. MACDONALD.—(To Mr. Parent). When did you come in, Mr. Parent.

Mr. PARENT.—In August, 1905.

By Mr. Macdonald:

Q. So that the surveys had begun the previous October, nearly a year previous before Mr. Parent became Chief Commissioner?—A. Yes.

Q. They were inaugurated under Mr. Wade?—A. Yes.

Q. As Chief Commissioner?—A. Yes.

By Mr. Smith:

Q. Well, now, the next figures that we have after this first or preliminary figure, given by Mr. Schreiber was a certain estimate amounting to $114,000,000?—A. That was made up under the direction of Mr. Lumsden.

Q. Are you able to say how that was compiled?—A. Well that was compiled from statistics in the office here in Ottawa.

Q. Did you yourself contribute to the preparation of that in any way?—A. No, I did not even know of its existence, until I became Chief Engineer.

Q. That, of course, would not be made as a result of any surveys or observations taken by Mr. Lumsden himself?—A. No, that was compiled from the profile here in the office in Ottawa; that is what I believe.

Q. It would be sent in by the district engineers. I suppose, and so on?—A. Yes.

By Mr. Macdonald:

Q. You have no knowledge of the details of making up that estimate from the standpoint of assistant to Mr. Doucet, had you?—A. No. I never heard of that estimate until after I became Chief Engineer.

Q. When you were assistant to Mr. Doucet, did you know of any estimate being made up in the district there of the cost?—A. Yes, I helped Mr. Doucet to make an estimate on contract 9, for instance, the first 50 miles west of the Quebec bridge, and I also assisted in making the estimate on contract 11.

Q. What material did you have before you in making the estimates in that particular section 'B'; what information did you have?—A. The first estimate that was made in District 'B' that was made—that was the first 150 miles and it was made before the surveys were completed. Some were made from locations there, from the preliminary line, and some merely from the projected line. That is a line on paper but not on the ground, purely an imaginary profile.

Q. That would be the material on which that 150 mile estimate would be made?—A. It was the estimate on which the contracts were let.

Q. That was evidently the estimate of $65,000 per mile or $114,000,000?—A. No, that estimate was made much later.

Q. It was made later?—A. Yes.

Q. That estimate was made previous to April, 1908, and was not reported to the House until that time?—A. No.

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By Mr. Smith:

Q. Now, will you tell us what considerations exist that would account for the discrepancy between that estimate of $114,000,000 and the actual cost, supposing there should be such a difference?—A. You must refer to the estimates on which the contract was let.

Q. Take those?—A. There will be no great difference between the actual cost and the $114,000,000 estimate.

Q. That is very important. I have been under the impression there was going to be such a difference. You say there will not be much difference between the estimate of $114,000,000 and the actual cost?—A. There may be a few million dollars, but there will be nothing startling.

Q. There will be nothing serious?—A. Not that applies to grading contracts. and does not take in terminals and that sort of thing.

Q. Will you tell us then what is the difference between the estimated quantities under the contracts and the actual quantities found?—A. For instance, there will be a great difference between the quantities moved on the work and paid for, and the quantities originally estimated for, on which the contracts were let. There is a vast difference in that.

Q. I would like to get at the reasons for that vast difference.

By Mr. Macdonald:

Q. That is the point. Take for instance on that table, you will find where there are certain estimated quantities which had been exceeded?—A. This is evidently what Mr. Smith wants.

Q. I apprehend that is what he wants? There are certain estimated quantities of solid rock, loose rock and common excavation which had been exceeded according to that table, which I suppose you are familiar with?—A. Yes.

Q. What page is that?—A. That is page 5,353 of 'Hansard.'

Q. Would you look at that page of *Hansard* and the statement there printed of the estimated quantities under the several contracts that are there enumerated, and will you explain to the committee what reasons exist why these quantities were exceeded in the actual working out of the enterprise?—A. Well, take for instance, contracts one and two, the estimated quantity of rock was nil; the returns, to December 31, 1909, are shown on contract 1 as 42,219 yards, and for contract 2, 43,556 yards. Now, when the surveys were made for these contracts there was no rock, no outcropping of rock showing on the ground at all. What little rock has been found, is only a bagatelle, 42,000 yards in one case and 43,000 yards in another——

Q. Is that a small quantity?—A. It is a small quantity of rock.

Q. On what distance would each of these contracts be?—A. 1 is 50 miles and 2 is 8 or 9 miles. Well this rock, as a matter of fact, came in swamps where it was not suspected there was any rock at all; 42,000 yards of rock in 50 miles might all be in one cut, and still not be a big cutting.

By Mr. Smith:

Q. It is very small?—A. It is nothing at all.

By Mr. Macdonald:

Q. Take those contracts as a sample: Rock that occurs there, could not easily have been foreseen?—A. It could not be foreseen, because there were no test-pits. There was no time for them; and the quantities are what engineers know as profile quantities, that is, they are simply sealed on the profile and there is no provision made for slips and slides and extra side-hill work and all that sort of thing, which runs into quantities, runs into large masses.

By Mr. Smith:

Q. Was any portion of that work done to determine these quantities in the winter

time, do you know?—A. Most of the surveys were done in the winter, that is the best time to make them.

Q. In the winter, do you get much outcropping of rock anywhere?—A. No. You have to guess at the classification. I think Mr. Lumsden would have been justified in putting in some rock here, because it is pretty hard to build 50 miles of railway without getting some rock; he might have risked some.

By Mr. Macdonald:

Q. Do you think common prudence, going anywhere in this country, building a railway would prompt an engineer to estimate something for solid rock?—A. Oh, yes.

Mr. CHRYSLER.—The percentage.

Mr. MACDONALD.—Some percentage. Apparently there was none in that case.

By Mr. Smith:

Q. At all events, in those two contracts that you have referred to there was absolutely nothing estimated for rock at all?—A. No.

Q. As a matter of fact the quantity actually found was small for that distance?—A. It is small to date; there may be more later on.

Q. Practically nothing. You say there may be more later on. Why?—A. They may find it yet. That contract is not finished.

Q. Now, please continue your answer?—A. Well, in contract 3, my answer for the one applies to them all more or less; the surveys were made in winter; all the quantities are profile quantities. There was no time to take out the cost of culverts and things like that. All that had to be guess work. There were no test pits dug on any of these cuts on any contract. The classifications are more guess work for all these first contracts, and the fact that Mr. Lumsden evidently did not take much stock in these estimates was because the contracts are all let on a schedule basis. The contractor is paid so much for rock, and he tenders so much for rock. He is paid so much for loose rock, so he is only paid for what he digs out. The country looses nothing by it.

Q. The country gets what it pays for?—A. The country gets what it pays for in every case.

Q. If the cost is exceeding these estimates, are you still of the opinion that the country is getting what it is paying for?—A. I certainly am.

By Mr. Clarke:

Q. What is the use of having that estimate?—A. That is to compare the contractors' figures, when we get them. We have to have an estimate of some kind in order to extend the figure and see what contractor's tender is the lowest.

By Mr. Chrysler:

Q. To compare the tenders?—A. Yes.

By Mr. Smith:

Q. When they are tendering on a schedule basis, would the tender vary according to the quantity?—A. But the contractors do not get the quantities.

Q. Mr. Clarke is asking why you should want to get the quantity if they are going to be paid so much a yard for solid rock, so much for loose rock and so much for common excavation?—A. We got the best estimates we could in the time given to get it.

Mr. CLARKE.—His point is they cannot tell which is the lowest unless they have some classification.

Mr. CHRYSLER.—They get the basis of the estimates that come and money it out.

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By Mr. Macdonald:

Q. What were the conditions in regard to the time allowed, do you remember?—A. To get this information?

Q. Yes, with regard to 'B?'—A. When the first contract in 'B' was let, if I remember correctly, there were only 60 miles practically surveyed, and it was let for 150 miles.

Q. The first contract had only been surveyed to enable any accurate——A. That is the final survey.

Q. To enable anything like an accurate estimate to be made on only 60 out of 150 miles?—A. Yes.

Q. As regards the other 90 miles of necessity it would be only guesswork?—A. On preliminary and projecting lines.

Q. It would be guesswork?—A. Yes.

Q. In some cases surveys were not actually made, and in some cases it had to be finally revised?—A. As a matter of fact a change from one side of the St. Maurice to the other was made after the contract was let.

By Mr. Smith:

Q. An estimate on the preliminary line, as compared with an estimate on the final location, would be very much less accurate if it were based on your preliminary lines?—A. Yes.

Q. Can you tell us what other causes contributed to a difference in the cost over and above that estimate?—A. For instance in District 'B' on the original estimates, there were no quantities estimated for train filling.

Q. In the $114,000,000?—A. Yes, and if I remember correctly there has been $1,500,000 paid for train fill since that contract was let, and the same thing applies to culverts which have cost a great deal more; there was no time to get the high water mark or other information to fix the sizes of the bridges and culverts and in some cases the grade had to be raised on account of high water in the river.

By Mr. Macdonald:

Q. At the time these estimates were made as a matter of fact wasn't there a great demand in the country for the prompt beginning of the road?—A. There certainly was.

Q. The desire all around was to initiate operations as speedily as possible?—A. Yes.

Q. And in consequence, I suppose the engineers hastened the matter as much as possible and got some data together in order to enable them to make an estimate to determine what the value of the contract was?—A. The data got together was quite sufficient for the purpose for which it was wanted.

Q. That was to estimate who would be the lowest tenderer?—A. Yes.

Q. But it could not by any means on account of the haste with which it was got together, be an accurate estimate or a statement of what the road would actually cost?—A. No, if you were to estimate for five or six years you would never get an accurate estimate, and the money spent on it would be wasted.

By Mr. Smith:

Q. That is the money spent on getting the estimate?—A. Yes.

Q. Now, apart from what you have stated as to the variation between the preliminary lines and the final location, can you give some other reason which will account for the serious discrepancy between the estimates and the actual cost?—A. On any part?

Q. I would like to get as far as possible over the whole thing, as we are dealing with it. Of course we are limited here particularly to sections 'F' and 'B,' but if the rest of the road will be the same, you might give it for the whole road.

By Mr. Macdonald:

Q. The question as between the estimates and the actual values is relevant to that estimate, no matter what part of the road it is on?—A. Well, if you go on to District C the quantities have been increased on that district owing to the fact that the grade is raised higher than that shown on the first profile from which the cost was taken. This was necessary owing to the wet nature of the country, from the nature of the material encountered in the cuts we were bound to run our slopes further back in many instances which resulted in larger quantities of material having to be removed.

By Mr. Chrysler:

Q. That all refers to District C?—A. To District C, yes.

Q. Well, what was the additional information you required about C, you say the country was wetter?—A. Yes, we had to raise the grades, the grades were too low for the ground.

Q. That would mean more filling?—A. That meant more filling, yes.

Q. There was additional material to be removed in order to raise it higher above the general level of the country than you would otherwise have had to do?—A. For cheaper maintenance.

By Mr. Macdonald:

Q. To avoid flooding?—A. Yes, from the swamps; it is swampy up there, and also to keep the line above the snow in the flat country.

By Mr. Smith:

Q. Another thing, in a statement by Mr. Lumsden to-day I think he said that what enormously increased the quantities was the large number of side cuttings, hillside cuttings?—A. Yes, that refers both to A and B, particularly B.

Q. And also F in places?—A. Yes, that makes a great deal of difference. Now, the original estimate was made from the profile which does not show the side hill part that has to be taken down if you have to cut away the toe for grade.

Q. Did you hear Mr. Lumsden's evidence?—A. No, I did not.

Q. You haven't had an opportunity of hearing what that evidence was at all?—A. No.

Q. Can you say of your own knowledge, approximately, to what extent that would increase the cost or the quantity. We will speak of the quantities?—A. With reference to the side hill work?

Q. Yes?—A. For a distance of 20 miles along the river St. Maurice I suppose it would increase it by 4 times what it was estimated for. Some of these slopes extend 300 feet back from the grade. Once we cut the toe, we have the water on the one side, and we have no alternative but to take out the slope, the whole thing comes down.

Q. And that would increase it 4 times?—A. Yes, 4 or 5 times the original estimate.

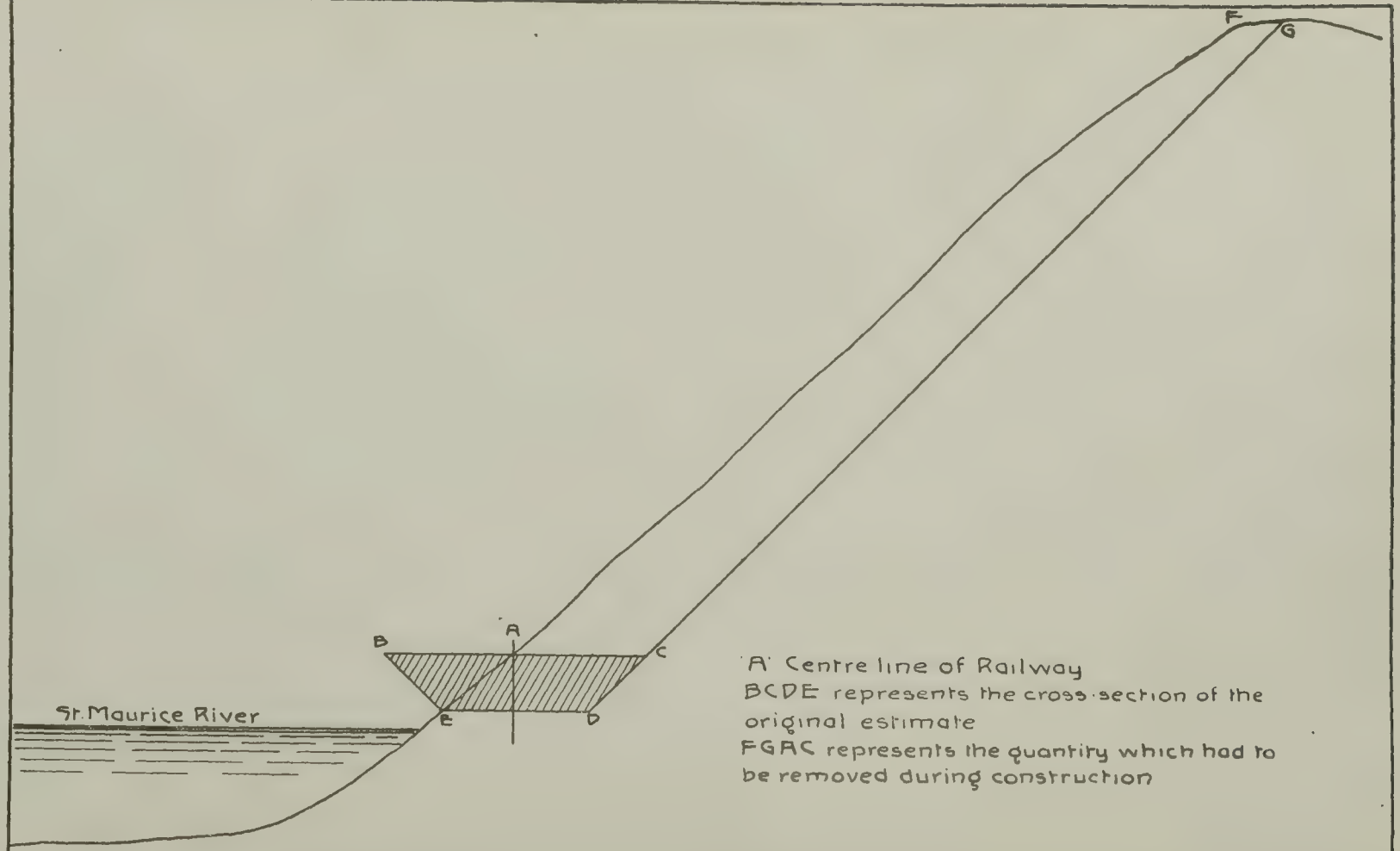
Q. And do these hillside cuttings occur with sufficient frequency to make that a very important factor over the road?—A. It made a very important factor, over 20 miles or so.

Q. I am instructed by some of the engineers that it occurs at intervals?—A. I am speaking of one particular spot; of course you get the same thing in many other places.

Q. That is what I wanted to get at, you do?—A. Yes.

Q. That would be a very important element in increasing the whole quantities?—A. Yes, I would refer, for instance to the work about 25 miles above Hervey Junction, in what we call the Mileau side hills where the rock estimate was increased probably ten times over.

EXHIBIT 83.—DIAGRAM ILLUSTRATING SIDE HILL WORK ON ST. MAURICE RIVER.



'A' Centre line of Railway
BCDE represents the cross-section of the original estimate
FGAC represents the quantity which had to be removed during construction

LUMSDEN ENQUIRY - EXHIBIT 83

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Q. It was ten times as much as the estimate?—A. Ten times more than we estimated on account of having to move so much more rock.

Q. Would that be anybody's fault?—A. Nobody's in the world, the line had to go there; you couldn't get out of it.

By Mr. Clarke:

Q. Why would it be as much as 300 feet?—A. Because you would have to get the slope.

Mr. CHRYSLER.—You had better make a diagram.

(Witness makes diagram illustrating side hill work on St. Maurice river, filed as Exhibit No. 83.)

By Mr. Smith:

Q. Might I ask you now if you would kindly put figures or letters to describe the diagram that you have just now drawn so that you can refer to them in your evidence and so that the evidence may be understood?

Mr. CHRYSLER.—Put a letter showing the centre of the line of railway in each case.

By Mr. Smith:

Q. Is this the St. Maurice river?—A. I have written the words 'St. Maurice River' over the part intended to indicate that river.

Q. You might put the letter 'A' as indicating the centre line of the railway?—A. 'A' will represent the centre of the line of railwy, 'B,' 'C,' 'D' and 'E' will represent the cross sections of the quantities calculated in the original estimate.

Q. You said, I think, that the man in the office who plotted out the work first would not know——A. The man who calculated the quantities first?

Q. Would know anything about the fact of this being on the side of a hill possibly 200 feet high?—A. No. I have indicated by the letters 'F,' 'G,' 'A' and 'C' the parallelogram which represents the cross-sections of the additional quantities which had to be removed during construction.

Q. That is to say that if your hill is 200 feet high you would have a quantity represented in the parallelogram 'F,' 'G,' 'C,' 'A,' about 300 feet long, which had to be removed in order to construct your line along the bank of the river?—A. Yes.

Q. Now, for how long does this condition exist in certain places along the St. Maurice river, for instance?—A. About 20 miles.

Q. In such a case how much would the original estimate be increased in the actual working out of the work?

Mr. MACDONALD.—Approximately, of course?

A. About 4 or 5 times the quantity.

Q. And that will extend as you have told us, for about 20 miles, and the same condition will apply——A. Will apply to other parts of the line in like proportion.

Q. To other parts of the line in like proportion, both in District B and District F, and I think you said in District A?—A. Also in District A.

By Mr. Macdonald:

Q. Did I understand you to say, Mr. Grant, that one of the first contracts in 'B' was let when only location or rather only full information was had about 60 miles out of the 150 miles contained in the work tendered for?—A. Yes.

Q. Would it have been in the interest of the country to have expended the money in making the surveys necessary to give full and complete information from which an accurate estimate could be based before calling for tenders at that time?—A. It would have been absolute waste of the country's money to do so.

Q. Why?—A. Because the quantities we had were quite sufficient for the purpose of letting the contracts.

Q. They were really samples?—A. If we had spent thousands of dollars on more surveys we might have changed the line afterwards just the same as we did.

By Mr. Smith:

Q. And the cost would have run to millions?—A. Over the whole line, yes.

By Mr. Macdonald:

Q. And the country could have got no value for the cost?—A. You couldn't get a correct estimate until after the whole line was cleared and cross-sectioned.

Q. Once the country had decided upon the policy of building this Transcontinental railway the estimate as to the cost was of no value to the country except for the purpose of enabling them to get sufficient information to let the contracts on at the schedule rates. But after the policy of constructing the road was once decided upon and it was known that it had to be constructed, a large expenditure in order to obtain information necessary to get estimates would not have been justified you say?—A. No, it would have been an utter waste of time and money.

Q. Because all that was necessary was for the purpose of obtaining information to enable the tenders to be called for and to work out a schedule of rates in order to determine who was the best tender?—A. Yes.

Q. You referred to that condition that existed in regard to the first contract in 'B' in which the tender was let after definite information had been obtained only in regard to 60 miles out of the 150 miles which the contract covered? Do you know of other cases where those conditions exist; you were speaking of that particularly because you happened to be connected with it?—A. Yes, the same conditions existed in District F on the McArthur contract.

Q. The same conditions existed in District F?—A. Yes, exactly, and the policy pursued on the Transcontinental railway is exactly the same as that pursued all over Canada by any railway.

Q. By railway companies in dealing with construction generally?—A. Yes.

Q. There was nothing unusual involved in that proposition, and the usual course was adopted here?—A. Yes.

Q. And the estimates obtained under these conditions must necessarily be neither definite nor certain in any way for the reasons you have stated?—A. Exactly.

By Mr. Macdonald:

Q. Mr. Grant, supposing an estimate was made for the purpose of submission to parliament, after part of the work had been done, that estimate would probably be based upon the simple values being extended for the whole work, or what they found in some particular part of it, without actual examination?—A. Yes, that estimate that has been submitttd to parliament was made in the office here.

Q. It was made in the office?—A. Yes.

Q. And it was based upon——A. The best information we had upon which to make it out.

Q. Which was guesswork for the whole of it, except in regard to perhaps the portions under contract?—A. Yes, considering that some of the contracts are hardly touched yet it could not be otherwise.

By Mr. Clarke:

Q. But where work has been done, as to that part it would be based——A. Upon the actual returns, and it would be correct as far as the work is done.

By Mr. Smith:

Q. I wish to ask you a question, Mr. Grant, whether when such conditions as you have described and illustrated by the sketch fyled as Exhibit 83 were found to exist, could that enormous increase in material have been obviated by deviating the line?—A. It could not, because you had to go up the St. Maurice valley; there was no place else to go, and the only place to go is on the side where you got the cheapest location, and that is where the line is to-day.

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By Mr. Clarke:

Q. Like the Hudson River railway to New York?—A. Yes, the only place to go is on that side of the river where we have taken it. If we had gone on the other side of the river we would have got far heavier work than on the side where the line is located.

By Mr. Smith:

Q. Was any provision made in that estimate that you have had before you, and that you have read from *Hansard,* was any provision made there for rock borrow where rock could not be obtained?—A. There was not.

Q. What is the significance of that in increasing the material?—A. Well, it practically multiplies the cost by the difference between the cost of common excavation and the cost of rock. All borrow was estimated in the first case as common excavation, the engineers supposing, of course, they could get it, but when you came to build the road you found you had nothing to make the fills with but rock which had to be borrowed.

Q. Would that run into a very considerable amount in increasing the quantities?—A. It would not increase the quantities very much; it would increase the cost.

Q. Now, in these figures upon which the contracts were let, was there any allowance made for taking out one foot below grade in the rock cuttings?—A. No, there was not.

Q. Well, would that amount to a large sum?—A. Because in some cases when the first estimates were made the specifications were not out and we did not know anything about the specifications calling for this rock to be moved one foot below grade, and it was not estimated.

Q. If that ran along the whole line it seems to me it would run into a very large amount, wouldn't it?—A. It would run into possibly 2,000,000 yards or 1,500,000, something like that.

Q. Now, where you have found assembled rock, as I understand on District B there were very large quantities of assembled rock, and that assembled rock is taken out would it be feasible to put that with a slope similar to ledge rock when that is removed?—A. No, it would not; it would not be safe to do so, because assembled rock as you know consists largely of boulders, and that material won't stand up for any length of time on a slope of $\frac{1}{4}$ to 1. It will for a certain time, but it is not safe. Therefore for the sake of safety all slopes on assembled rock cuts had to be flattened out to 1, and in many cases to $1\frac{1}{2}$ to 1, which of course increased the quantities to a very much greater amount than was estimated.

Q. I suppose wherever this assembled rock existed, the portion outside the theoretical slope for ledge rock would probably be greater than that within the slopes, wouldn't it?—A. Yes, in the case of a $1\frac{1}{2}$ to 1 slope it would practically double the quantity.

Q. Could that have been foreseen in any way, Mr. Grant?—A. No, it could not.

Q. Is there any fault to be attributed to anybody in connection with it?—A. None whatever.

Mr. SMITH.—Now we will put in the statement from 'Hansard' as to estimated and actual quantities as an exhibit.

EXHIBIT No. 84.

ENGINEERS' estimated quantities of solid rock, loose rock and common excavation, and actual quantities of each returned to December 31, 1909.

Contract No.	SOLID ROCK.		LOOSE ROCK.		COMMON EXCAVATION.	
	Estimated quantity.	Returned to December 31, 1909.	Estimated quantity.	Returned to December 31, 1909.	Estimated quantity.	Returned to December 31, 1909.
1	Nil.	42,219	129,379	938,728	1,841,152	520,728
2	Nil.	43,556	58,473	87,728	529,452	47,695
3	22,112	83,434	492,589	483,960	494,036	232,506
4	315 315	510,948	1,030,121	812,745	1,016,720	301,602
5	252,893	801,189	971,224	548,817	1,224,284	163,828
6	172,709	251,602	64,765	913,188	1,676,175	810,671
7	633,900	533,668	196,300	280,962	407,000	366,280
8	918,381	1,365,625	395,645	1,382,705	3,091,120	869,306
9	392,989	484,005	38,248	81,396	1,795,202	495,256
10	776,161	2,849,832	278,552	1,351,519	4,508,480	1,552,331
11	220,200	847,949	180,200	449,313	1,966,458	631,199
12	990,600	188,710	633,700	130,100	2,259,000	68,000
13	462,000	No returns.	470,600	No returns.	1,920,000	No returns.
14	203,144	20,679	21,646	767,136	3,956,566	990,894
15	243,400	12,727	51,900	622,259	1,127,200	555,651
16	104,700	No returns.	45,200	No returns.	1,618,600	No returns.
17	16,000	"	8,000	"	1,677,000	"
18	225,845	237,441	25,900	107,410	1,046,000	620 08
19	2,602,000	658,182	89,000	242,178	1,489,000	228,703
20	493,400	344,377	71,900	331,802	374,000	129,057
21	3,696,336	6,415,869	733,454	2,056,297	11,233,247	2,215,876

Q. I want to ask Mr. Grant whether those increases are explicable at all by reference to the disputes as to over-classification or overbreak, excessive overbreak?—A. Disputes of classification have nothing whatever to do with these quantities, that is to say, I won't admit that the question of classification or disputes of classification will increase the cost of the road to any appreciable extent.

Q. They will not increase the cost of the road to any appreciable extent?—A. No.

Q. In your experience with the road and in your relations with Mr. Lumsden as Chief Engineer are you aware of any other questions having been raised by Mr. Lumsden—engineering questions—any other questions concerning the policy or administration of the Transcontinental Commissioners, save and except his disagreement with some engineers as to classification of assembled rock? Are you aware of any other question ever raised by Mr. Lumsden, any engineering question, except that?—A. He never raised one that I know of. I never heard Mr. Lumsden.

Q. He has placed the reason for his resignation upon this, that he differed with his engineers as to the question of classification; now you have spoken of that question of classification as being a tempest in a tea-pot, and you tell us now that those increased quantities have nothing to do with the question of over-classification?—A. Yes.

Q. As an engineer, would you consider that a reasonable ground for the Chief Engineer giving up his position?—A. Oh, I don't know. I don't care to answer that.

Mr. MACDONALD.—I think that is a matter of taste.

By Mr. Smith:

Q. What would you do as the Chief Engineer, supposing that you differed from your district and division engineers?

Mr. MACDONALD.—I don't think that would help us whatever in any way, that answer.

Mr. Moss.—He is not an expert on resignations.

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Mr. SMITH.—But if there is a difference between the Chief Engineer and any of his subordinates——

Mr. CHRYSLER.—That is a matter of opinion.

By Mr. Smith:

Q. What is the standard in this country for the grade of railways?—A. Well, up till the Transcontinental was built it was one per cent.

Q. What is the grade of this road?—A. Four-tenths of one per cent.

Q. How does the cost of building a road of as high standard as four-tenths compare with a grade of one per cent?—A. Well, I should say that you could put the one per cent grade over the ground where the Transcontinental has gone for probably one-third the money.

Q. For a third of the money?—A. Yes.

By Mr. Clarke:

Q. That means that it is no more than four-tenths of one per cent at any point?—A. Well, not one third, perhaps a half.

By Mr. Moss:

Q. That is the maximum grade—four-tenths of one per cent?—A. It is eastbound; six-tenths westbound. The other could be built for half the money.

By Mr. Chrysler:

Q. A road with a maximum grade of one per cent?—A. Yes.

By Mr. Smith:

Q. The advantage of building a road of so high a standard is what?—A. Is that it will be a paying proposition when the other would be a loss. It would not earn the expense of running it.

By Mr. Macdonald:

Q. I notice some comments were made in some quarters in the press and elsewhere, on the fact of the disparity between the estimate for solid rock and loose rock and common excavation, the article being put in this way—that common excavation decreased from, say, a couple of million feet estimated down to seven hundred thousand feet, and solid rock or loose rock would increase from a couple of hundred thousand feet up to a million?

Mr. SMITH.—Or yards, as the case might be.

The WITNESS.—Well, I believe that there is a lot of that, it amounts to different engineers running different routes, and one engineer trying to make his line cost less than the other, and he generally puts in lots of common excavation when he should put in solid rock in order to show a saving over his neighbour's line, and this great amount of common excavation in the estimates is due to merely guess work—putting in common excavation when the engineer didn't know whether he could get it or not, or whether it was in the country, in order to show a low cost for his line.

Q. For the line which he was advocating?—A. Not for the line which he was advocating, but for his revision, or his location, or his trial. It is a failing with engineers to estimate low.

Q. I recall a statement made in connection with the Hodgins' inquiry, where Major Hodgins claimed that the line that he had run or recommended for adoption as the final line would have saved so much to the country?—A. That is what he called the revised estimate.

Q. That may be it?—A. You take the McArthur contract from Rennie to Superior Junction, a large portion of that line, about 180 miles, I suppose, was changed after the contract was let for the reason that wherever they crossed bays or lakes and things, they had thrown the line out in the water in order

to avoid rock cutting; and when they came to take soundings in the lake they found that their quantities for filling exceeded their quantities of excavation by four or five times, and that there was no material to be had in the neighbourhood in the shape of common excavation to make these fillings, consequently the line had to be thrown into the side hills, which largely increased the rock quantities, and it was more or less balanced so that the rock from the cuts would make the fills, and all that common excavation that was estimated for and was not in existence had to be turned into solid rock because there was nothing else in the country but solid rock. That accounts for practically the large increase in solid rock on the McArthur contract and the disappearance of common excavation.

By Mr. Moss:

Q. Mr. Grant, I gather from what you said, though I don't know whether you said it explicity or not, that as a result of your various investigations of this work, both before and since your appointment as Chief Engineer, you saw no evidence of anything that would point to the conclusion that the engineers in charge of the work were not both competent and acting with the interests of the commission, the interests of the railway at heart?—A. No, I have no reflection to cast on the honesty of the engineers, and anywhere where I disputed their classification, all the explanations that I asked for were cheerfully and willingly given; there was no attempt to conceal anything.

Q. And when you said that there had been a misinterpretation of Mr. Lumsden's interpretation of his specifications, you referred principally to his question of assembled rock?—A. That is all that there is in question.

Q. And what was the nature of the misinterpretation that you found existed particularly—that they had been trying to follow too closely his picture, or what?—A. Trying to classify rock in the cuttings which looked like rock on the blue print.

By Mr. Macdonald:

Q. In accordance with the picture?—A. Yes.

By Mr. Moss:

Q. In accordance with the picture, and they had not been sufficiently guided by the letter press which referred to the required continuous blasting?—A. They had not been sufficiently guided, in my opinion, with the cost or removal of this material and the hardness of it.

Q. Of course the specifications and the interpretation do not say anything about the cost of the removal?—A. Well, if the cost of removal is not a question, why did they pay more for solid rock than common excavation?

Q. I don't know, but what Mr. Lumsden said was: 'Rock in masses of over 1 cubic yard (assembled rock) which in the judgment of the engineer can be best removed by blasting,' and that, I suppose, would be continuous or almost continuous blasting?—A. It would have to be continuous blasting to be solid rock. There is no question about that. They couldn't go at it with a plough.

Q. And he says: 'To form a judgment as to whether or not it is best removed by blasting, the Chief Engineer must view the work of progress or leave it to be decided by the engineer in charge, whose duty it is to frequently visit the work during its operations and be governed thereby and act accordingly.' I suppose you agree that the engineer in charge is the man who can best tell the classification, unless his superior is in frequent contact with the work—I mean, Mr. Lumsden going over the work in the way he did on his arbitration trip could not undertake to reclassify the work with such an inspection as that?—A. Well, he did it.

Q. But I mean he could not expect you to have any confidence in the results, could he?—A. I have not any confidence in the results so far as I have seen of them. I don't agree with Mr. Lumsden's clasification that he filed here.

Q. You would not have any confidence in any results obtained in that way from

an inspection of that kind?—A. Well, hardly, from men who had never seen it before.

Q. From a man unless he was fairly familiar with the work during its progress?—A. Or that he always could get a gang of men and dig the side of a cut; you don't have to see it before. If there is any dispute you can get a gang of men and dig into it, and dig plenty, and be sure.

Q. Make frequent diggings?—A. And big ones. You have to dig at least deeper than the material has been affected by the weather.

Q. And you would have to dig at frequent intervals?—A. Yes.

Q. And you would have to make measurements, I suppose, more or less frequently?—A. Well, you would have to make measurements if the engineer had not made any himself and he had classified by percentage.

Q. How could you check it up?—A. Well, if he classified by percentage, he is to a certain extent guessing himself; then you have the privilege of guessing just as well as he has.

Q. That is to say, if percentage was the only available way of measuring?—A. Yes.

Q. Then, of course, you could not measure with a tape any more than he could?—A. No.

Q. And you would have to resort to percentage?—A. Yes.

Q. Just the same as he did, and the sole difference would be that you might differ as to the percentage to be allowed?—A. Yes.

Q. And that would be by making frequent investigations into the slopes or into the bottom of the cutting to get an idea of the quality of the material?—A. Yes.

Q. I think you told us that you found your engineers had erred on the side of under-classification as well as on the side of over-classification?—A. Yes.

Q. And quite frequently, I believe?—A. Not quite frequently; no.

Q. In several cases—I mean sufficient to satisfy you at any rate, that I think you mentioned that as one reason why you were satisfied that there was nothing wrong, nothing intentionally wrong, with their classification?—A. Yes.

Q. That there had been sufficient under-classification to justify you in coming to that conclusion?—A. Well, I admit that the same men who under-classified also over-classified, and *vice versa*.

Q. And you have both those matters under consideration at the present time, I understand?—A. Yes.

Q. You have not given any final verdict on either of them?—A. Not yet; no.

Q. And I suppose you will not do so until you have made those investigations in the cuts with which you were not personally familiar?—A. Well, in the cuts where I have ordered remeasurements to be made before I would express an opinion on them.

Q. That is to say, any cuts where you thought there might be either over-classification or under-classification, you have ordered to be remeasured, and you are reserving your judgment on them until that remeasurement has taken place?—A. Yes.

Q. And I presume you propose to make full investigation into those and get all the information available from the engineers?—A. I will have plenty of digging done in order to obviate dispute with the contractors later on, in case they are not satisfied with the reclassification.

Q. What you said about over-classification or mistakes in classification applies also to the overbreak?—A. How do you mean?

Q. I mean that there wasn't any; you don't imagine or suggest that there was any intentional return of excessive overbreak?—A. No. Overbreak was largely for the want of instruction. Mr. Lumsden issued no instructions that I am aware of concerning overbreak until it had all been removed. His circular is dated 11th February, 1909, when all the work had been done.

Q. Did you take measurements in regard to the overbreak when you revised it?—A. I did not.

Q. How did you arrive at quantities, then, that you deducted?—A. I simply allowed the contractor what I thought was fair.

A. Just by your eye?—A. Yes.

Q. Did you consult your local and district engineers?—A. Yes, on both trips. Both the first trip I made and also when I was arbitrating.

Q. You consulted them with regard to the quantities?—A. I consulted them with regard to any question that came up in reference to the cutting.

Q. As to the circumstances, did you inquire into the circumstances under which the work had been done?—A. I did.

Q. In each case?—A. I don't know of each particular cutting, but on each residency.

Q. Then would you think that the circumstances under which the work was done in any part—District 'F,' for instance, where it was ordered to be rushed—would that have any bearing on your idea as to whether it was overbreak?—A. It did.

Q. And it would incline you to be more liberal?—A. It certainly did incline me to be more liberal than if the work had not been rushed.

Q. Of course, you were not in such a favourable position in regard to the overbreak on 'F' as you were on District 'B'; you had not the same experience with 'F' as you had with 'B' previous to your appointment?—A. I had practically been over the whole of it three times before I was Chief Engineer.

Q. As inspecting engineer?—A. Yes, and reported my ideas on it to Mr. Lumsden, and told him frequently that he should issue instructions; that in my opinion they were turning in more than they should be, and he never did until the 11th of February.

By Mr. Chrysler:

Q. What is it that you referred to just now as instructions of 11th February, 1909? I don't remember of a document of that date?—A. Yes, it was put in Mr. Lumsden's evidence and it is filed here—circular on overbreak.

Q. Then the document that you have been referring to in your evidence is the one that has been filed here as Exhibit No. 63?—A. That is it.

Q. You don't criticise the document?—A. No, I have left that in force. This is in accordance with the specification.

Q. You understand that that is in accordance with the specification; you only point to the fact that a great part of the work that is in question here was finished before this circular was issued?—A. Yes.

Q. There were one or two questions I wanted to ask you which I thought were not sufficiently explained; you say that in the estimates—I think you were speaking of the estimates that were made for the purpose of calling for tenders—train fill was not included?—A. It was not included; no.

Q. Will you explain what train filling means and how it arises?—A. When you have to make a fill that is, say, 60 feet deep and a half mile long, it is impossible to make it with the ordinary mode of grading and horses and carts, or scrapers, or anything else. The practice is to build a large temporary trestle and run your track over it and then make this fill with steam cars, dumping the material from the trestle You may haul it from five to forty miles, for that matter.

Q. The ordinary method would be to take the material out of the place where it was being excavated, out of the cutting, on a tram or cart?—A. Yes.

Q. And haul it out to the end of the dump and let it fall over?—A. Yes.

Q. That cannot be done with the class of filling that you speak of?—A. When you have a fill involving two or three hundred thousand yards, those fills were estimated as common excavation in the original estimate. Well, then, when they came to build the contractors got from forty-five to fifty-five cents a yard, train fill, for that, which increased the cost very materially.

By Mr. Clarke:

Q. Was that in addition to the excavation?—A. It is not an addition. It is an item by itself.

By Mr. Chrysler:

Q. There is a price for train filling?—A. Yes.

Q. And train filling is paid for, but it takes the place of so much——A. Borrow. For instance, in 'B' that borrow was estimated at twenty-one cents; it was put in the first estimate at twenty-one cents. When it came to letting the contract, the item had fifty-five cents in it.

By Mr. Macdonald:

Q. That is the item in the lowest tender?—A. Yes. Well, it was not in the contract at all, you know. That was agreed to by Order in Council afterwards as an addition.

By Mr. Chrysler:

Q. Was there no price for borrow?—A. There was no price for train fill in the contract.

Q. Will you explain what borrow is? We have been talking about it for three weeks and we don't know what it is yet?—A. You have a fill with 20,000 yards in it, and then you have a cut with 10,000 yards in it. You take 10,000 out of your cut and put it in the fill, and you are still short 10,000. Then you widen your cut and you call that borrowed material as distinct from line-cutting material.

Mr. CLARKE.—That is better than the usual form of borrowing; you never pay it back.

By Mr. Chrysler:

Q. What your specification says, I think, or what these specifications usually say, is that the borrow will be usually taken from the widening of line-cuts?—A. Yes.

Q. The meaning of that is, that you do that where you can, because you are benefiting?—A. Making room for snow and benefiting the line by doing so.

Q. And making room, perhaps, sometime or other for double tracking?—A. Exactly.

Q. Or siding?—A. Yes.

Q. But there are cases where you cannot take it from widening the track?—A. No. If you have a rock cut, for instance, and could get cheaper material from one side.

Q. Get cheaper material, earth instead of rock?—A. Yes.

Q. You would designate a borrow which might be on or off the line?—A. Yes.

Q. For the contractor to take the material from that place and that borrow is measured in excavation?—A. Measured in excavation.

Q. But it really fulfils no purpose except the filling of a bank somewhere?—A. Yes.

Q. Then the appearance of 'borrow' in the returns indicates the sort of miscalculation in the original estimate arising from the unexpected occurrence of rock cutting?—A. No, sir.

Q. What then?—A. The appearance of borrow in an estimate is not a miscalculation.

Q. What is it?—A. It simply means that there was more fill on the profile than cutting; that the cuttings on the profile did not make the fills.

Q. I was only speaking of the case which you suggested—if when you expected to fill a certain embankment from an adjoining cutting and that cutting turned out to be rock?—A. Well, when an engineer is making a preliminary estimate like that and he has a big fill, he simply says: 'There are so many yards of borrow in there,' and he doesn't care where it comes from; he just puts in 100,000 yards borrow; he does not care whether it comes 50 miles or ten feet.

Q. Well, did you say here that the rock borrow was not allowed for in the estimate? Oh, that is another case?—A. That is a worse case. That is where we were under——

Q. Where you could not get earth at all?—A. Yes. In that case we could not even get train fill.

Q. Then it is cheaper to use rock than to go miles away to get earth?—A. Yes.

Q. That leads to the use of rock borrow? It is an expense arising from the unexpected difficulty of the country?—A. Yes.

Q. The reason you say the one foot below grade was not included in the original estimate was that that estimate was made before the specifications were out?—A. Yes.

Q. Does the specification now call for one foot below grade in all rock cuttings? —A. It does.

Q. Is not that common?—A. It is on more expensive roads. On high standard roads it is.

Q. Supposing it was not a high standard road, how would you avoid going one foot below grade in rock cuttings? Would you put your ballast on the rock?—A. In some cases it would only go six inches.

Q. Instead of a foot? At all events it was one of the things that were left out in the first calculation?—A. It was left out in the first estimate.

Q. And it adds, of course, one foot to the excavation from one end of the line to the other wherever there is a rock cutting on the bottom of the grade.

By Mr. Clarke:

Q. That is a foot below the top of the road?—A. No. It is a foot below the bottom of the ballast.

Mr. CHRYSLER.—A foot below sub grade.

By Mr. Clarke:

Q. Don't you put that on the bed rock where it is rock?—A. This one foot is refilled with spawls in order to make it soft. If you only have six inches of ballast between the bottom of your tie and the bed rock it would rack the trains too much and destroy the rolling stock. This is blown out and refilled with spawls, with broken stone.

By Mr. Chrysler:

Q. There is another case of train filling, but it is probably covered by what you have said. Is that a common thing where you have to fill in water?—A. Water?

Q. Yes?—A. On the Transcontinental we generally use rock to fill in water because it is cheaper.

Q. Train filling means earth?—A. Train filling means earth, yes.

By Mr. Clarke:

Q. Nothing but earth?—A. Nothing but earth.

Committee adjourned.

APPENDIX No. 3

FRIDAY, April 15, 1910.

The committee met at 11 a.m., Mr. Geoffrion presiding.

ARTHUR EMILE DOUCET, district engineer of 'B,' recalled.

By Mr. Chrysler:

Q. You are the district engineer on district 'B,' Mr. Doucet?—A. Yes.

Q. Have you been in that position from the beginning of the work?—A. Since October, 1904.

Q. What was the stage of the work in October, 1904?—A. That was the very inception of the work.

Q. Were you engaged in survey work then?—A. Yes.

Q. And when did the survey begin on that district?—A. November, 1904.

Q. Can you tell us when you had the preliminary survey complete?—A. We had a preliminary line run through from one end of the district to the other in about August, 1906.

Q. The district includes several miles on the south side of the St. Lawrence down to the boundary of New Brunswick?—A. 203 miles.

Q. How many miles are there on the north side of the St. Lawrence?—A. Originally 200, and now altogether 307 on the north side.

Q. What has added to the length? Has the boundary of the district been changed?—A. Part of district 'C' has been added to district 'B.'

Q. What was the date you gave a moment ago?—A. August, 1906.

By Mr. Clarke:

Q. What happened then?

Mr. CHRYSLER.—They had a line run through from one end to the other.

The WITNESS.—A preliminary line.

By Mr. Chrysler:

Q. There was a statement put in yesterday which gave us the date of the first contract.

Mr. MACDONALD.—We passed it over at the moment.

By Mr. Chrysler:

Q. I will put that in now as Exhibit 85, a return already made, signed by Mr. McPherson and presented to parliament, showing the different contracts. Just look at that. That indicates a number of contracts on district 'B?'—A. It does not say when the contract was given.

Exhibit No. 85.

NATIONAL TRANSCONTINENTAL RAILWAY.

Statement Showing Districts, Mileages, &c., and Amount of Sundry Items of Work Done to December 31, 1909.

District.	Contract No.	Contractor.	Through Mileage of Contract.	Boundaries Between Districts.	Percent of contract completed.	Miles of grading completed in district.	Miles of Track laid in District.	Miles of telegraph completed in district.	Steel bridges completed in district.	Ballasting miles.	Remarks.
									p. c.		
	1	Grand Trunk Pacific Con. Co.	0· - ·50	Moncton, N.B.	94·3						
	2	J. W. McManus & Co., Ltd.	50. - ·58		62·6		Sidings 24·9				
A	3	Grand Trunk Pacific Con. Co	58· - 96·42	(256·61 Miles.)	85·0	243	Main 133·1	86	·54	109·2	
	4	" "	96·42- 163·80		68·3		158·0				
	5	W. Kitchen Co., Ltd.	163·8 - 195·58		73·6						
	6	Lyons & White	195·58 256·61		85·9						
				New Brunswick and Quebec Boundary.							
	7	M. P. & J. T. Davis	256·61- 310·22		46·7						
	8	" " " (East Que. Bridge)..	310·22- 460·45		67·9		Sidings 14·5				
B	9	" " " (West Que. Bridge)	460·45- 510·31		75·3		Main 174·1				
	10	Macdonell & O'Brien	510·31- 610·41	(507·22 Miles.)	87·7	355·8		83	63·9	93·8	
	11	Grand Trunk Pacific Con. Co	610 41- 656·83		60·5		188·6				
	12	Macdonell & O'Brien	656·83- 763·83		8·8						c. b. 107 m. transferred from C. to B.
				107 M. west of Weymontachene, Que.							
C	13	Macdonell & O'Brien	763·83- 878·80								
	14	Grand Trunk Pacific Con. Co	878·80- 956·74	(192·91 Miles.)	Nil.	8·5	Nil.	Nil.	Nil.	Nil.	
				Que. and Ont. Boundary.	28·2						
	14	Grand Trunk Pacific Con. Co	956·74-1028·80				Sidings 9·9				d. c. 31·6 miles transferred from D to C.
D	15	E. F. & G. E. Fauquier	1028·80-1128·77	(216·11 Miles.)	33	108·5	Main 57·9	Nil.	16·7	23·5	
	16	M. P. & J. T. Davis	1128·77-1172·85				67·8				
				144 M. west of Cochrane, Ont.	Nil.						
	16	M. P. & J. T. Davis	1172·85-1232·85								
	17	" " "	1232·85-1332·85		Nil.						
E	18	E. F. & G. E. Fauquier	1332·85-1407·85	(255·19 Miles.)	45·3	36·0	Nil.	Nil.	Nil.	Nil.	
	19	O'Brien, Fowler & McDougall Bros.	1407·85-1428·04	339 M. west of Cochrane or 125 M. east of present Lake Superior Junction.	21·5						
	19	O'Brien, Fowler & McDougall Bros.	1428·04-1534·04				Sidings 56·8				
F	20	" " " "	1534·04-1557·80	(376·80 Miles.)	75·0	310·3	Main 255·9	217	40·9	213·3	
	21	J. D. McArthur	1557·80-1804·84		93·7		312·7				
				Winnipeg, Man.							
						1062·1	728.1	368	....	439·8	

Total percentage of work done on all 21 contracts, 57·2 p.c.

Ottawa, February 26, 1910.

H. MacPHERSON,
Asst. Chief Engineer.

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Q. Which was the first contract that was let on your district?—A. MacDonnell & O'Brien's contract No. 10; No. 9 and 10.

Q. Were they let about the same time?—A. The same time, yes.

Q. Do you remember when that was?—A. That was in March, 1906.

Q. How much final survey or location had you completed at that time?—A. That was 150 miles, that contract. There were two contracts which comprised 150 miles of line.

Q. Before you answer the other question. Beginning where and ending where? —A. Beginning at the Quebec bridge and ending 150 miles west of the Quebec bridge.

Q. Then I asked you how much final location plan had been completed at that time?—A. Would that mean from what line the estimates had been prepared on?

Q. Well, I was following something that Mr. Grant said yesterday, which you probably heard, and from which I understood that the final location was not complete on this 150 miles?—A. No, but we had a rough preliminary line run right through in order to make up our quantities for the estimates for those contracts. We had to use a profile on 50 miles of preliminary line; 91 miles on the first location; that has all been done. We did not have any final location at all.

Q. No final location on that 150 miles?—A. No.

Q. That is exactly the question I wanted you to answer?—A. Yes.

Q. For what purpose did you require the quantities before letting the contract? —A. In order to enable us to arrive at a fair estimate of the value, and also for competing tenders.

Q. In order to money them out?—A. Yes.

Q. To ascertain at the prices named in the tenders which tender is the most favourable.

By Mr. Clarke:

Q. Was the line located where this first location was on which the contract was based?—A. The first location, but before we ended we had to make three locations, a first location, a revised location and a final location, but we only had a first location in for 91 miles.

Q. Did they take a final location?—A. No, in many cases the line was 6 miles away.

Q. So that the part on which the contract was based was not used at all?—A. I won't say the whole line was changed, but in places it was changed that much.

By Mr. Chrysler:

Q. Following Mr. Clarke's question, you had a profile on 50 miles of preliminary line?—A. Yes, we used the profile to arrive at the quantities.

Q. You used the profile in making a calculation for taking out quantities, for the purpose of moneying out tenders?—A. Yes.

Q. That is the only purpose of it?—A. That we expect to arrive at what the quantities were in a rough way.

Q. Until further corrected?—A. Yes.

Q. That would serve as a basis of the quantities which you expected to have to move?—A. Yes.

Q. But Mr. Grant has told us and you would agree that for that 50 miles at all events the profile shows only the surface contour of the ground?—A. At the centre line.

Q. Is it the practice or is it proper practice in extending the quantities on the line, where you have that amount of information and no more, to assume that the excavation will follow what I have been calling the normal prisms of equal slopes on each side of the centre line?—A. Where you have more time to locate your line, you certainly get much more information. This information enables you to see whether the surface is level or at an inclination.

Q. Later on, if you had to do it, in order to get more accurate information such as you could obtain from the surface, would you also stake out the top of the slopes? —A. Not to arrive at the first quantities.

Q. You could do it that way, but it would be unnecessary engineering work? —A. Yes.

Q. If you had pegged out three lines, stakes on the centre line and stakes at the top of the slopes at each side, that would give you no information as to the contents of the prism?—A. Well, certainly if we had the levels on each side as well as in the centre, we could arrive more closely.

Q. You would know the yards?—A. The quantities.

Q. But you would not know what it was composed of?—A. You cannot see below the ground.

Q. You would not know what it was composed of, as to whether it was rock or other material?—A. No.

Q. Then it is usual or good practice to dig pits or shafts along the line of railway in order to ascertain what material is contained below the surface for the purpose of making an estimate?—A. I have never seen it done but in one case. I have seen it done in one case.

Q. Under what circumstance would it be reasonable or proper to do it?—A. Well, in this instance it was going through a settled country where we had every convenience for digging. This was in Cape Breton on the government railway, but I may say that the results arrived at were not at all satisfactory and misled the contractors instead of giving them additional information.

By Mr. Moss:

Q. That was a comparatively short line?—A. Oh, yes, it was only 87 miles.

By Mr. Chrysler:

Q. Then, of course, even that is fallible also; that is to say, the value of the results depends upon your digging a sufficient number of test pits or shafts to give you a fair average of the excavation?—A. The most accurate way is to take out the cut itself. You never know until the cut is taken out.

Q. Well, on 91 miles—by the way, was that 50 miles location changed afterwards or did you adhere to the lines shown on that preliminary survey?—A. About two-thirds of the 150 miles were changed.

Q. Did that occur more on the preliminary survey or on the other part?—A. It occurs more on that part that we had the preliminary survey on.

Q. It occurs more on the 50 miles in proportion than on the 91 miles?—A. Yes.

Q. On the 91 miles were changes made after the first location, you were working on that?—A. Yes.

Q. Were the changes considerable?—A. One of them is 6 miles long. Our crossing of the Canadian Pacific railway at St. Basil, 6 miles in length.

By Mr. Smith:

Q. What do you mean by that?—A. Our preliminary line crossed the Canadian Pacific line in one position, and when we started to locate the line we had to throw it over to one side; in the first place we crossed under the Canadian Pacific railway and we found we could not possibly get the grade, and we had to cross on the level eventually, and that entailed 6 miles of change in the line.

Q. Did that mean that that line as located finally was 6 miles north or south? —A. No we had to change 6 miles of railway.

By Mr. Chrysler:

Q. That was due to the difficulty of getting under and keeping the maximum grade that you are limited to?—A. Yes.

Q. Can you mention another extensive grade? Something was said yesterday

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about changing from one side of the St. Maurice river to the other?—A. That comes in on the preliminary line. I am talking about the located portion now.

Q. Then we will take that first?—A. Well, from the 65th to the 75th mile, that is ten miles we also changed—I suppose the line must have been two miles away between those points. This was when we finally located the line, it was two miles to one side for ten miles in length.

Q. Two miles away from the first location you were working with when the contract was let?—A. Yes.

Q. What was the reason for that?—A. Simply better grades and better line, and a shorter line.

Q. Any other?—A. Yes. Now, we come to the preliminary line.

Q. Yes?—A. At the Millieu river we changed there about nine miles of the railway, and the extreme divergence is of about three miles.

Q. The greatest distance between the new line and the old is three miles?—A. Yes.

Q. I suppose they converage at both ends?—A. That was done to cut out distance. The next change was at La Tuque.

Q. Yes?—A. We changed 12 miles of railway, and the extreme divergence was about 6 miles, and that was done because we found, on running the first location, that we could not possibly get the grade, the four-tenths grade which we hoped to get, which we thought we could get on the preliminary lines; that was due to an error in levels.

Q. The preliminary line was the one you were counting on?—A. That we based our quantities on.

Q. And the one you were counting on to get the four-tenths grade?—A. Yes.

Q. You found you could not do that?—A. Due to an error in levels we could not get that and we had to take completely new ground.

Q. Somebody spoke about a loop?—A. That is the loop.

Q. Did you make a loop there or did you cut out the loop?—A. No, we had to make the loop.

Q. Did that add to the distance?—A. That added four miles to the distance.

Q. But you had to add to the distance in order to get the grade?—A. Yes.

Q. What is the next instance?—A. The next instance is along the St. Maurice river.

Q. Yes?—A. There we found——

Q. The preliminary line still?—A. The preliminary line still.

Q. Showed what?—A. It continues right up to the 150th mile; we had to follow the St. Maurice river; it is a narrow valley.

Q. Climbing up to get——A. We were going to the summit there. On the preliminary survey we did not get half the information as to the high-water mark to enable us to put our line far enough into the hill to keep the toe of the embankment out of the water; therefore, the profile we had on the preliminary line showed very much easier work than what we eventually obtained when the line was located. In order to keep the embankment out of the water—the water raises 27 feet there—we had to shove the line into the hills, and the slopes are very abrupt, very steep; that meant to say that where we thought we would have a thousand yards, in many cases we found we would have to take 5,000 yards owing to the very steep nature of the slopes.

Q. On the side hill away from the water?—A. On the side hill away from the water.

Q. That is common experience in engineering, isn't it? I mean following the bank of a river involving difficult side hill work?—A. Yes.

Q. You used the cutting which the river has made to avoid a similar cutting which you would have to make yourself if it was not there?—A. Yes.

Q. About the depth of water, was that a settled country where observations as to the variations of water were available?—A. No, not at all.

Q. Wild country?—A. Yes.

Q. You had to get experience as to the variations in the water levels yourselves?—A. Yes, and from lumbermen who might happen to pass up and down there.

By Mr. Macdonald:

Q. River drivers?—A. Yes, river drivers.

By Mr. Chrysler:

Q. Then you have already, in the several exhibits that have been put in and referred to—you have already before the committee several communications upon the subject or meaning of the specification and your views with regard to it. I think I would like to refer as quickly as we can to some of these communications.

By Mr. Macdonald:

Q. A question, perhaps before you pass along, Mr. Doucet, about the conditions that existed at the time of the estimate. The original estimate, I suppose, was based on this preliminary location of yours? On what principle did you divide, with this amount of information that you had before you, the quantities of solid rock, loose rock and common excavation?—A. I did not divide that up myself. My engineers divided that up. I may say we had seven parties on this work; each engineer was supposed to make up an estimate, an approximate estimate, of the quantities on his own portion of the survey,and return it to my assistant, who was then Mr. Grant, who compiled the figures and handed them to me, and that was simply guess work. It had to be necessarily guess work.

Q. It had to be guess work?—A. It had to be.

Q. You could not proceed on any definite principle?—A. It had to be guess work.

By Mr. Moss:

Q. Of course, there was at that time no definition of classification?—A. No, we did not have the specifications until three months after.

By Mr. Macdonald:

Q. Until after the estimate was made?—A. Yes, we had one copy of the specifications in my office, but our engineers were not supplied with them from the Ottawa office until three months after the first estimate was made.

By Mr. Moss:

Q. You did not actually get it until the estimate was completed, or about completed, did you?—A. No, just at that time.

By Mr. Macdonald:

Q. The observations on which the guess was made by the locating engineer, and the estimates were made before they had seen the specifications?—A. Yes, were made on the assumption that solid rock was ledge rock or boulders, large boulders.

By Mr. Chrysler:

Q. And all else common excavation?—A. Loose rock.

Q. Your estimate was based upon the expectation that the specification would separate excavation into solid rock, meaning ledge rock and boulders more than one cubic yard in contents.

By Mr. Macdonald:

Q. Not necessarily that?—A. They were made on the assumption that the specification would be the same as the specifications we had always been accustomed to work under up to this time.

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By Mr. Chrysler:

Q. Loose rock and common excavation?—A. Solid rock, loose rock and common excavation.

Mr. SMITH.—Would it not be interesting there to ask in what respect these specifications differ from others?

By Mr. Chrysler:

Q. In what respect do the specifications in these contracts differ from the ones you say you had been accustomed to?—A. Those we had been accustomed to said that solid rock should be ledge rock, should be ledge rock or boulders, measuring more than one cubic yard, and ends there. Loose rock is boulders between one foot and one cubic yard, and the rest to be common excavation.

Q. Loose rock was also necessarily rock, but smaller in size?—A. And cemented material.

Q. Cemented material would be classified as loose rock?—A. Yes. Well, now the specifications that were handed to us brought in the word 'mass' which had never appeared before; brought into loose rock the plough tests.

Q. Was that novel?—A. That was novel. It was applicable to the southern states, but not at all here. Common excavation was the same.

By Mr. Moss:

Q. That introduced the blasting subject too?—A. Yes.

By Mr. Macdonald:

Q. Perhaps as you commenced on that subject, we might continue on it. It is all the same, you have to give your views about it at some stage. Just tell us with the specifications before you what the difference is between those and the one you speak of as the one which has been customary in your experience. Have you got the C.P.R. specification?—A. I had the C.P.R. specification at that time.

Q. That is the standard?—A That is the standard.

By Mr. Macdonald:

Q. What date?—A. 1897.

By Mr. Chrysler:

Q. What is the definition of solid rock in that?—A. 'All stones or boulders found in excavation measuring more than 27 cubic feet, and all solid rock, quarry stone requiring blastings in order to remove it, shall be termed solid rock.'

Q. Then the differences appear to be the substitution of the word 'quarry stone in ledges' in this article and the addition of the word 'masses'?—A. 'Shall include,' yes.

Q. 'Shall include rock found in ledges or masses,' and then there is no test there, but there is in this one, 'which in the judgment of the engineer may be best removed by blasting,' is an added quality?—A. Yes, but it contains 'shall include.' Will you just read that over again.

Q. 'Shall include all rock?'—A. Yes. Now, stop there. 'Or masses of more than one cubic yard.' It does not say 'shall include all masses.' It says 'shall include all rock or ledges of more than one cubic yard.' It depends upon the emphasis you put on the word 'or.'

Q. Grammatically, perhaps, the sentence is—I will just see what you think of this: 'Solid rock excavation' is the kind of excavation?—A. Yes.

Q. So far we have nothing to define what is to be solid rock excavation?—A. No.

Q. 'Will include all rock found in ledges' will include masses. That is one view of it.

By Mr. Clarke:

Q. Does that include rock found in masses?

By Mr. Chrysler:

Q. Does that mean that the masses must be rock?—A. There must be some masses in the rock.

Q. Not masses of rock, but masses containing rock?—A. That is the way I take it.

Q. Then if it meant rock found in ledges or in masses, it would have a different shade of meaning. That would clearly be rock in masses, wouldn't it?—A. Yes, and it might be, as Mr. Lumsden said, detached rock.

Q. Yes. However, what is the interpretation you have given it?—A. I think it is in one of my letters, Mr. Chrysler.

Q. You would like to refer back to that? I had one here which I was going to ask you about. That is at page 192. I think you have not written about it more than once?—A. Yes, I repeated it. I think several of my engineers have given their interpretation, too.

Q. That follows immediately after your interpretation as contained in Exhibit 42?—A. Yes, that is my letter (referring to Exhibit 42).

Q. That letter states not only your view but your practice?—A. Yes, our practice.

Q. You state (reads):

> That we have classified as solid rock all ledge work.

'Work' should be 'rock?'—A. Yes, that should be rock.

Q. (Reads):

> All ledge rock, all boulders measuring more than one cubic yard, all masses of small boulders and cemented material which, in our judgment, were best removed by the continual use of explosives.

A. That is the difference we had with Mr. Lumsden, our Chief Engineer. In his letter he says that he differs from me in this term 'cemented material,' whereas he did not take my meaning correctly. What I meant, and what I tried to say, although I might have worded it differently, was 'small boulders in cemented material;' that small boulders had to be cemented together. He did not take that view of my letter.

By Mr. Moss:

Q. Small boulders mixed with cemented material?—A. Yes, held together with cemented material, cemented together.

By Mr. Chrysler:

Q. You meant small boulders in cemented material, not a mass of cemented material without boulders in it at all?—A. I spoke to Mr. Lumsden about that.

Q. You didn't mean that?—A. I did not mean that.

Q. You meant boulders cemented together? This letter is dated 26th October, 1907. You wrote then, did you not, to say you accepted his view?—A. Yes.

Q. And you conformed to it?—A. Yes.

Q. Exhibit 21 is the letter from Mr. Lumsden to you, dated January 30, 1908. (Reads):

OTTAWA, January 30, 1908.

A. E. DOUCET, Esq.,
District Engineer, Quebec.

DEAR SIR,—Herewith please find copy of my interpretation of clauses 34, 35 and 36 of our general specifications, together with a blue print diagram in explanation of same. These after having been submitted to the Justice Department, have been approved by the commissioners.

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You will please at once go over these carefully, and say whether the classification in your district conforms to such interpretation. If it does not, steps must at once be taken by you to have your division and resident engineers, who are personally acquainted with the work, take up the matter, and as far as now practicable, have an estimate prepared showing the difference such classification would make with that which has heretofore been used by you. In future all classification must be in conformity with my interpretation. Measurements must be made and full notes be kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant, of rock or loose rock in boulders. In short, actual measurements shall be made of all classified material returned, and not by percentages except in cases where measurements are impracticable in the judgment of the engineer in charge.

Yours truly,

HUGH D. LUMSDEN.

Now, you received this letter, Mr. Doucet, and acknowledged it?—A. Yes.

Q. You acknowledged it in this letter of the 1st February? (Reads):

EXHIBIT No. 86

QUEBEC, February 1, 1908.

HUGH D. LUMSDEN, Esq.,
Chief Engineer, Ottawa.

DEAR SIR,—I beg to acknowledge receipt of your letter of January 30, file 7787, and to say that the instructions contained therein will be sent out immediately to all the division and resident engineers.

I will personally explain the instructions to the division engineers when they bring in their estimates for January to my office.

Yours very truly,

A. E. DOUCET,
District Engineer.

Q. Then on the 19th February Mr. Lumsden wrote a letter which we will put in as an exhibit also (reads):

EXHIBIT No. 87.

OTTAWA, February 19, 1908.

A. E. DOUCET, Esq.,
District Engineer, Quebec.

DEAR SIR,—I find that I have no reply from you in regard to clause 2 of my letter to you of the 30th of January *re* interpretation clauses 34, 35 and 36 of our general specifications, and as I have had replies from the other district engineers, I should also like to have one from you.

Yours truly,

HUGH D. LUMSDEN.

That refers to the letter of——A. Of January 30.

Q. Yes. Exhibit 21. He means the sentence at the beginning of the second paragraph, I think, or do you understand it that way?—A. Yes.

Q. Reads:

You will please at once go over these carefully and say whether the classification in your district conforms to such interpretation.

A. Well, we had had a discussion. The district engineers had a full discussion with Mr. Lumsden on the 29th January, in his office here when we assured him of what our views were. Mr. Lumsden must have known very well, if he had taken the trouble to think, that we agreed with that.

Q. Well, we will put in this letter and then refer to that interview. You answered that in a letter dated February 20, 1908?—A. Yes.

Q. (Reads):

EXHIBIT No. 88.

QUEBEC, February 20, 1908.

HUGH D. LUMSDEN, Esq.,
Chief Engineer, Ottawa.

DEAR SIR,—In answer to yours of February 19, file 7787, I wrote you on the first of February acknowledging your letter of January 30, file 7787, saying that the instructions contained therein would be sent out immediately to all division and resident engineers, and that I would personally explain the instructions to the division engineers when they brought in their estimates for January to my office. Since that time I have issued a circular quoting your letter of January 30 to engineers.

I may add that the classification in my district conforms to your interpretation as discussed and understood by us at the meeting of the district engineers with you, and the commissioners at Ottawa in February.

Yours truly,
A. E. DOUCET,
District Engineer.

Q. That refers to the meeting you mentioned just now?—A. Yes.

Q. And that meeting took place on the 29th?—A. On the 29th, the day before we got that letter.

Q. On the 29th of January at the office of Mr. Lumsden, in Ottawa?—A. In the board room of the Transcontinental Railway Commission.

Q. In the board room of the Transcontinental Railway Commission at Ottawa?—A. Yes.

Q. From this letter it seems to have been a meeting of district engineers? I mean none of your staff were here with you?—A. No. I was the only one.

Q. Then you were the only one from District 'B'?—A. Yes.

Q. Then, going back to the letter of January 30, what did you do in order to carry into effect the instructions contained therein?—A. On the 1st of February I sent out a circular to all the division engineers and to all the resident engineers of my district, giving them Mr. Lumsden's interpretation and the blue print, and telling them that from this time on they had to be guided by it. The division engineers came in on the 2nd or 3rd of February with their estimates, when I said that I would explain it to them personally. They had already personally explained the thing to me before——

Q. Yes?—A. That Mr. Lumsden's interpretation of January 30 was exactly the interpretation we had been using from the very starting of the work.

Q. It did not make a change?—A. It did not make any change at all, he really accepted, our interpretation. He calls it his interpretation but it is the interpretation, and the correct interpretation, we made of the classification outside of the blue print. We never made any blue print.

Q. Had you then been classifying as solid rock, material which did not contain rock in large proportions?—A. No.

Q. Did you classify as solid rock, material which contained boulders, cemented together, but also contained a proportion of such cementing material other than rock;—A. Yes.

Q. If Mr. Lumsden intended you to classify as solid rock only material which consisted wholly or almost wholly of rock, you did'nt follow that?—A. No.

Q. What was your rule?—A. Our rule was that the mass had to be—had to consist of boulders.

APPENDIX No. 3

Q. Yes, A. It had to look something like rock cemented together and requiring constant blasting in the judgment of the resident and district engineers.

Q. Mr. Grant said that he thought there were errors in some cases where the material did not require continuous blasting?—A. I may say that whenever we found a case of that kind we instructed the engineers as to what our views were and required them to follow our views, but it only happened in a very few cases.

Q. But you agree with Mr. Grant that the test of continuous blasting was necessary in order to constitute solid rock under the specification?—A. Absolutely necessary.

Q. And you would not have sanctioned, nor did you sanction the classifying as solid rock, material which could have been removed by occasional blasting, or without blasting at all?—A. I never did, and I took very good care to instruct my engineers that that must be an essential before they could call it solid rock, massed rock.

Q. Well, what was this material like? You can perhaps tell us better than anyone else. Mr. Grant tells us that there was a great deal more of it on your division than anywhere else on the line?—A. Yes.

Q. Certainly more than on 'F'? You put in photographs while Mr. Lumsden was being examined, I don't know whether you have any more of those?—A. Those put in were the best samples.

Q. Give us some illustration of what this material was like when it was in process of removal?—A. This blue print may serve to give you a fair idea of what the material was like.

Blue print filed and marked as Exhibit No. 89. For sketch see opposite next page.

Q. Is this imaginary?—A. Yes.

Q. It is not an actual case?—A. No.

Q. Does it illustrate cases that actually occur?—A. Yes.

Q. Just explain it please?—A. The whole thing represents a cross-section. The space inclosed between larger lines represents boulders. The smaller ones represent gravel, and the blank space is supposed to represent the cementing material holding all these boulders together.

Q. What is that cementing material usually?—A. It may be gravel or it may be clay, indurated clay or gravel, or sand.

Q. Well, it might be well to indicate the size of the boulders. That is not intended to be a part of the illustration at all?—A. No.

By Mr. Clarke:

Q. Is that cement so strong that when you could not pick out these boulders (referring to blue print)—A. Yes, you can not pick out anything. You can pick out solid rock, ledge rock, if you like, if you take time enough; but generally in cemented material where you take a gullet out there are some great boulders sticking out of the slope. The material holding the boulders together is so strong that it keeps the slopes up vertically until they have been exposed to the weather long enough for this cemented material to disintegrate and bring the boulders down.

By Mr. Chrysler:

Q. Does it disintegrate by exposure to the air?—A. Always.

Q. And gets softer?—A. Always.

Q. But as presented when the work is broken into you say that it will stand almost perpendicular?—A. Perpendicular. But when this same material is put into the embankment all mixed up together and exposed to dampness it will cement again in the embankment. Then you could not pick that stuff out of the embankment, you would have to blast it out.

Q. Is there much of that on district 'B' Mr. Doucet?—A. Yes. A great deal.

Q. How does it occur, in pockets between the ledges?—A. No. Very often you

get a whole cutting made out of it and in a great many places it overlies the ledge rock.

Q. What you call ledge rock there is gneiss, isn't it?—A. Granite mostly.

Q. It is all stratified rock?—A. Yes.

Q. And that is very irregular in its contour, isn't it?—A. Yes.

Q. Supposing it was simply a case of this clay or gravel with boulders in it overlying the granite, the plane between the two materials would be a very irregular one?—A. Yes, very probably.

Q. Have you in practice, or have your engineers, measured separately the solid rock in cuttings consisting partly of ledge rock of that description?—A. Yes.

Q. With the cemented rock lying on top of it?—A. Yes.

Q. How is the solid rock measured?—A. By means of levels over the surface.

Q. And recorded on your cross-sections?—A. On the cross-sections.

Q. And if the surface is very irregular how do you overcome that difficulty?—A. It means taking more cross-sections at closer intervals.

Q. Then so far as you know, or so far as you have given instructions, have the engineers on your division estimated the quantities of solid rock?—A. Of ledge rock?

Q. Yes, of ledge rock?—A. They calculated from the cross-sections, from actual levels and cross-sections.

Q. Well, is there any set of circumstances in which it would be necessary, or as in the opinion of this letter, impracticable, in the judgment of the engineer in charge to make actual measurements?—A. Well, it all depends on what the measurements mean.

Q. Yes?—A. If by measurement it is meant to say that every boulder composing the mass has to be measured with a tape, then all the engineers, myself included, told the Chief Engineer that it was impracticable and impossible; and with a view to meeting that he consented to change his interpretation to say 'unless considered impracticable in the judgment of the engineer in charge.' On the other hand, if it means that the whole mass, the whole cross-section, will be simply guessed at by percentages then that is wrong, and that was not the course followed out in our case anywhere on the line.

Q. And that practice was not sanctioned by you?—A. Not sanctioned by me or followed out or used on the ground.

Q. Wherever the ledge rock occurred underlying or adjacent to mixed material, the quantity of ledge rock was obtained from actual measurements?—A. Actual measurements.

Q. Then supposing that the cutting consists of mixed material, which seems to be a convenient term, the quantity of boulders in one part of the cutting would vary considerably I suppose from the quantity in another part of the same cutting?—A. Yes.

Q. What would you do with a case of that kind?—A. That is where we have to estimate by percentages.

By Mr. Moss:

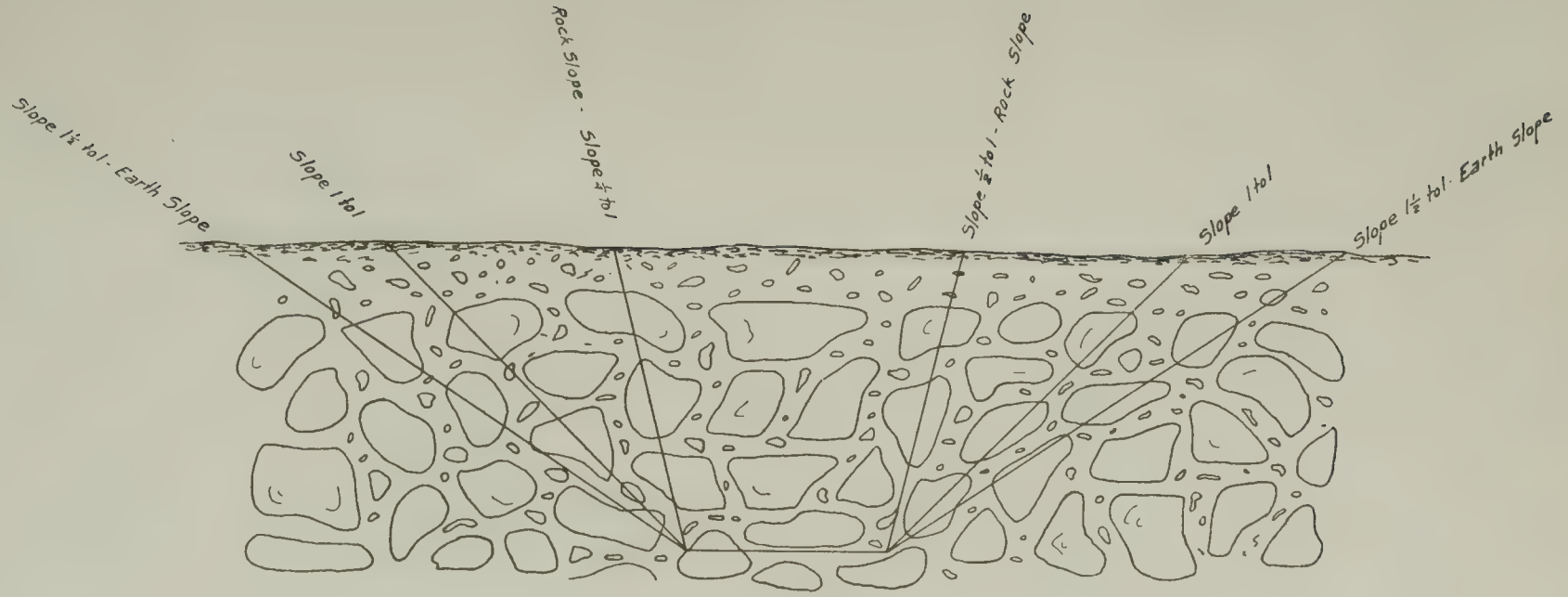
Q. Are you speaking now of cemented boulders?

Mr. CHRYSLER.—I am proceeding by his definition.

The WITNESS.—We will say this is a cross-section here (illustrating) and the part on the left hand side is thickly strewn with boulders. Perhaps there is a spot in the middle where there is much more gravel or where the cemented material is looser and not so cemented. On the other side of this same cross-section the boulders are almost nothing. You cannot measure that with a tape, the engineer has got to go around and use his eye-sight and say that one third of the cut, or thirty-three per cent, comes under the classification of massed material, mixed material, or

EXHIBIT No. 58.

EXHIBIT NO. 89.



— Sketch —

Showing reason why Slopes have to be taken out to different inclinations on account of danger from Boulders

solid rock. Perhaps this spot in the middle would have to be called common excavation, and there might be ten per cent, taking the whole mass and judging the amount of space that this spot occupies in reference to the whole mass. The other probably would come under the definition of loose rock. However, it is impossible to take a tape measure, even two or three men could not do so, and go and measure that and arrive at a proper estimate.

Q. What is the real difficulty, is it that you have no line to guide you?—A. No line to guide you, the whole thing is a guess.

Q. The material shades from one thing to the other?—A. Yes. Very often the top is hard and comes under a definition of solid rock, whereas the part underneath will be much softer material where the engineer would be bound to return it as loose rock on account of its not being cemented so strongly together.

Q. That happens, does it?—A. It has happened in many cases.

Q. That apparently would follow from the nature of the material, the surface being longer exposed?—A. Well, it is not like that. I suppose it must have been due to pressure, and in other cases possibly there was less pressure. That was why the Chief Engineer, when we explained the thing to him at the meeting on January 29, agreed to put in 'unless considered impracticable.' The matter was fully explained to him.

Q. And that was only intended to apply in the circumstances you have mentioned?—A. In the case of massed material.

Q. You are always speaking, are you, of material containing a large proportion of boulders cemented togther so as to require continuous blasting for removal?—A. Yes.

Q. If it was not cemented together but lay in sand or clay or gravel which could be removed without blasting, or continuous blasting, what would be the proper classification?—A. Loose rock unless the boulders were over a yard.

Q. What is the meaning and application of Article 38 in the specification (reads)—

> The classification of material from slides shall be made by the engineer, and will be in accordance with its condition at the time of the slide, regardless of prior conditions.

That has no application to the material in a cutting?—A. No. That is outside the slope.

Q. Now, you spoke of the engineer looking at this material. Have you in your mind the ordinary case of the contractor working at a more or less perpendicular face in the cutting?—A. Yes.

Q. And what there is exposed to his eye?—A. Yes.

Q. If it is opened all the way across the same thing would appear in all cross-sections at that point?—A. Yes.

Q. That you say in the case which you have described, the engineer would have to estimate according to his judgment?—A. Yes. He would have to estimate the percentage, not the quantities, not the total quantities in the prism. That is taken with proper levels and proper cross-sections.

Q. That is the result of measurements of the prism?—A. Of actual measurement of the prism.

Q. But all these percentages would change as the work goes on?—A. Continually, yes.

Q. Each blast will open a new face?—A. Yes.

Q. With perhaps a change of the proportion of boulders?—A. Yes.

Q. Well, what does he do with that, does he keep a record of it?—A. Yes, he keeps a record of it.

Q. His note book contains memoranda as to the changing appearance of the face as the work proceeds?—A. Yes.

Q. Then when he gets through to the end of the cutting has he to revise all these impressions?—A. He returns a monthly estimate and a cross-section for the month is recorded in the book. If the cut takes ten months to take out, the engineer, if the nature of the material is varied in that cut, would have ten records and he would take the average at the end of the time in order to arrive at the yardage of solid, loose and common excavation.

Q. Well now does he put that anywhere on his cross-section or how is it shown?—A. The yardage is shown of each material.

Q. But he does not attempt to delineate on the cross-section just where each material was?—A. He can't separate the loose rock and common excavation from the solid portion in the mass of material; on the cross-section, the yardage shown.

Q. Well, now will he show on the cross-section the ledge rock?—A. Yes.

Q. It will show exactly where it is?—A. Exactly where it is.

Q. It is virtually a picture in the cross-section of the rock which is in place?—A. Yes.

Q. You say that it is not attempted, it is not practicable in the case of loose rock?—A. Not in massed material, but the total quantity is there; you can't show on the cross-section the dividing line between the solid, the loose and the common excavation in the mass material.

Q. You could not show that on the cross-section?—A. Oh no.

Q. You have perhaps covered, inferentially, a question that arises there. As this letter (Exhibit 21) is written, it would lead one to suppose that your practice up to this time has been different in some respects, and that you were required to change it and to follow the instructions given here; was that necessary? Now, for instance, we will take it step by step, because there are several things, and I want to ask you as to each of them. In the first sentence, I will ask you to take the first sentence of instructions (Reads):

> You will please at once go over these carefully, and say whether the classification in your district conforms to such interpretation.

Well, you said so in this letter (Exhibit 88) of February 20, you say that 'the classification conforms to the interpretation as discussed and understood by us at the meeting of the district engineers.'—A. Yes.

Q. That was correct?—A. Yes.

Q. Now, the next thing he asks you to do seems to follow on that, he says, 'If it does not, steps must at once be taken by you to have your division and resident engineers, who are personally acquainted with the work, take up the matter, and as far as now practicable, have an estimate prepared showing the difference such classification would make with that which has heretofore been used by you.' A. Yes.

Q. Did you do that?—A. I couldn't do that because it wasn't necessary, but it didn't make any difference.

Q. You could not make any change?—A. No.

Q. And as you understand the instructions, they did not require you to make any change from the practice which you had been pursuing?—A. Oh no.

Q. Then the next sentence is also covered, if what you say is correct. 'In future all classification must be in conformity with my interpretation.' You intended it to be?—A. Yes, and Mr. Lumsden knew no change was made, he never found fault, he never said anything afterwards, therefore we took it for granted that the matter was settled once for all.

Q. Up to this time, you mean, he did not?—A. No, but after this.

Q. But had Mr. Lumsden not found fault with the classification prior to this date?—A. Yes, in October, 1907, he did.

Q. We will come back to that presently, but after January 30, 1908, no fault was found with your classification?—A. No fault at all.

Q. Then the next sentence refers to something you have been speaking about

just now: 'Measurements must be made and full notes be kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant, of rock or loose rock in boulders.' Did that require any change in your practice?—A. No, because we considered we had explained that fully.

Q. Had you been doing that?—A. In some cases we measured the boulders, we measured loose rock, but not in this mass material.

Q. You could not do it?—A. We explained to the Chief Engineer that we could not do it and he changed his interpretation to "unless where measurements are impracticable.'

Q. That was after your explanations?—A. Yes, that point was put in there to cover our objections to his interpretation.

Q. You have described how far you did carry that out, and you say you did carry it out as you understood it?—A. Yes.

By the Chairman:

Q. Your explanations convinced him that it was not possible?—A. We must have convinced him because it was changed; we were all there.

Q. Before that his contention was that it had to be measured?—A. Before that his contention was that it had to be measured.

By Mr. Chrysler:

Q. Now what occurred at this meeting of October, 1907? We have the statement about it from Mr. Lumsden, and it is referred to in his letter (Exhibit 13). You have the book there, and you will see it at page 151, it will shorten the examination, perhaps, just to make use of it, as far as it goes, making any comment on it that you want to make. He says that he visited La Tuque, and this probably fixed the date, too, he says that he left Quebec, accompanied by the commissioners on the evening of the 24th of October, arriving in the vicinity of La Tuque on the morning of the 25th, accompanied by Mr. Doucet, Mr. Grant, Messrs. Huestis and Hervey and others?—A. Yes.

Q. Then he says on the next page,——A. Excuse me, something should appear before that to show that it was he himself who invited us to meet him there. It was he himself who wrote to the contractors to meet him there to discuss the thing.

Q. Yes, that is the case, is it?—A. Yes.

Q. You were invited by Mr. Lumsden to meet him at Quebec and to visit the work?—A. Yes.

Q. Did he say who he wanted to accompany him?—A. He said the commissioners would be present, the engineers of the Grand Trunk Pacific railway, and he wished me to ask the contractors, or rather he wrote to the contractors himself, and I also mentioned to the contractors that they should meet us there to discuss the whole matter.

Q. Their names are here.

By Mr. Moss:

Q. To discuss what?—A. The whole question of classification.

By Mr. Chrysler:

Q. Well, perhaps I had better read what he says and then ask you for your comment on it unless there is anything more that occurred you wish to refer to?—A. No.

Q. (Reads)—

> On arriving near the crossing of the Quebec and Lake St. John railway I, accompanied by the engineers and contractors walked over a portion of the heaviest work on the line from about mile 117 to 122½.

Is that at La Tuque?

A. That is at La Tuque, that is the loop.

Q. That is at that place where the loop has been constructed?—A. Oh, yes.

Q. Was it constructed then?—A. Some of it was being worked at the time.

Q. The line had been changed had it?—A. The line was changed and was being constructed.

Q. It was being constructed at this time?—A. Yes.

Q. Was any work ever done on the original line at this place?—A. Just a little clearing.

Q. And when it got that far you made the change?—A. Yes.

Q. But all the work, substantially, was done on the revised line?—A. On the revised line.

Q. (Reads)—

> From the division or resident engineer I learned the classification allowed by them, and it appeared to me, according to my interpretation of our specifications that a larger amount of solid rock was returned in them than appearances indicated, and the engineers, in my opinion, returned loose rock or cemented material, where a considerable amount of explosives were used, as solid rock.

Now, that is the statement of Mr. Lumsden as to the position at the time, and his opinion with regard to it? The interview, according to his letter, afterwards took place in the car?—A. Yes.

Q. I don't know whether you discussed the matter with him while he was examining it or not?—A. No, as usual, Mr. Lumsden always kept by himself and made no remarks.

By the Chairman:

Q. He didn't ask you for any information?—A. No, he never asked for information, that is the fault we found with him.

By Mr. Chrysler:

Q. How much of this work at La Tuque had been done at this time? How much had it progressed?—A. I suppose perhaps 25 per cent.

Q. What sort of work, is it?—Is it what you call heavy?—A. Very heavy work.

Q. And some side hill?—A. Some side hill, but principally through cuttings of from 20 to 100 feet deep, and some of them of ledge rock, others ledge in the bottom covered with mass material on the top and large boulders.

Q. And this covers 5½ miles?—A. Yes.

Q. Perhaps it would be convenient if we could see the profile of that; I don't know that it will enlighten us very much, but you can tell us what it means?—A. It shows the work, and the large photographs show this cutting.

(Profile produced by Mr. Huestis).

Q. Now the scale, the vertical scale is?—A. Twenty feet to the inch.

Q. How much of that cut is on what you have shown here?—A. This is 117 down to there, that is the portion Mr. Lumsden walked over. (indicating on profile).

Q. Are there 5 miles of the line shown there?—A. Yes, 6 up to the end.

Q. So that we have the whole of the cuttings on this one piece?—A. Yes.

Q. How many cuttings are there in that piece?—A. About 12 cuttings.

Q. And how much of the whole length is cutting?—A. I suppose pretty nearly one-half.

Q. And what is the material in that piece?—A. Both ledge and——

Q. What is the total length of those 12 cuttings?—A. About half the distance, 2½ miles, would represent cuttings and the rest embankment.

Q. There are about 12,000 feet or so?—A. Yes, we can get it if you want it more accurately.

Q. In round figures will do?—A. Yes, about 12,000 feet.

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By Mr. Moss:

Q. Are these tunnels (pointing to profile)?—A. Yes, a tunnel, not a cutting, you see the rock is still on top.

Q. Yes, you left that there, it is there yet?—A. Yes, it is all ledge rock. We intended to have a tunnel here (indicating on profile) but the top was massed material, not solid enough, and we had to take the whole cut out.

By Mr. Chrysler:

Q. It came down, eh?—A. It increased the quantities, it wasn't solid enough for a tunnel, it wouldn't make a roof.

Q. What is the length of the tunnel there?—A. 750 feet.

Q. That is solid rock there, I suppose?—A. That is ledge rock.

Q. And for the whole of that distance (indicating the 5½ miles) is the mass rock considerable in quantity?—A. About one-half the quantity.

Q. About one-half the quantity of the total material would be mass and the rest ledge rock?—A. Yes.

Q. Would there be any common excavation?—A. Oh, yes—one-half the quantity of solid rock would be mass material.

Q. What are the stations there, do those stations occur in Mr. Lumsden's points in which he thinks there has been over-classification?—A. No, he ignores that.

Q. In the list of stations shown in his memoranda for this committee there are no references to the stations in that cutting?—A. No, you asked him and he said he had no remarks to offer on those cuts, although he objected to those cuttings on the arbitration trip. He said, when asked, that he did not object to them, he said he had no remarks to make about them.

Q. Mr. Huestis, can you tell us the stations of those cuts so that we can put them in?—Mr. Huestis—5,860 to 6,140.

Q. Therefore, that is the portion of the line which formed the subject of discussion in October, 1907?—A. Yes.

Q. You say that the examination of the cutting was made by Mr. Lumsden himself and that you had no discussion with him in regard to it while you were passing over the work?—A. No, he asked the resident engineer to give him the quantities.

Q. Who was the resident engineer?—A. Mr. Matthews.

Q. Then he goes on to refer to an interview held in the car which refers to another matter, the statement of Mr. Woods which he says was withdrawn?—A. He says 'It appears,' he might have said that it did take place, and that it was so.

Q. Yes. I had better refer to that then here, he says "and from the conversation which took place and the statements of Mr. Doucet, Messrs. Grant, Huestis, and Harvey, confirmed by letters from Messrs Bourgeois, Matthews and Girdwood, it appears Mr. Woods must have been in error when he stated that, 'the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in the judgment, but, as I understand, by special instructions from the assistant district engineer,' or, as stated by him in the latter part of his letter, by arbitrary orders from their superior.' Well perhaps you had better refer to that now. Did Mr. Woods actually make that statement?—A. He actually took it back.

Q. There?—A. Yes, and he said he would confirm the withdrawal in writing. Mr. Lumsden was there when that statement was made and I don't see why he didn't mention it there in that letter. Surely he couldn't have forgotten it two days afterwards.

By the Chairman:

Q. What you object to is the word 'appears'?—A. The word 'appears,' when he

heard Mr. Wood withdraw the charge and heard him say also that he would confirm the withdrawal of it by letter.

By Mr. Moss:

Q. You think he should have said that Mr. Woods acknowledged he had been in error when he made the statement?—A. Acknowledged instead of "it appears."

By Mr. Chrysler:

Q. That is a fact, that Mr. Woods made the statement there on that occasion?—A. Yes, the others all heard him.

Q. All the others being there with yourself?—A. Yes.

Q. Then he said that all the dispute was a difference of interpretation between himself and you and the engineers under you, who seemed to have agreed with you, they did, did they?—A. Our own engineers?

Q. Yes?—A. Oh, yes, they did.

Q. Now, in the fourth paragraph from the top of the page Mr. Lumsden says:—

> 'I can only say that I do not concur with the interpretation placed on clauses 34, 35 and 36 of the General Specifications by Mr. Doucet or the engineers under him. In my opinion solid rock excavation, clause 34, covers all material that should be classified as solid rock, viz., all rock found in ledges or masses of more than one cubic yard, which, in the judgment of the engineer, may be best removed by blasting.'

A. He doesn't tell us anything new in that, that is repeating the language of the specification.

Q. Now, what really was the difference, because I understand from what Mr. Lumsden has told us in this room that there was a discussion between you there on this occasion, what was the difference between your views and his?—A. That these masses of boulders cemented together, requiring continuous blasting, were being returned by us, were being classified by us, as solid rock, and it is that classification that he does not approve of.

Q. What did you understand his view to be? Or did you understand what it was then?—A. We thought from what he said that it was loose rock and boulders of more than one cubic yard.

Q. And nothing else?—A. And nothing else, and he has that view still.

Q. That rock in masses, cemented together should not be classified as solid rock unless more than one cubic yard in diameter?—A. No, at that time he wasn't willing to allow it at all.

By Mr. Clarke:

Q. He shut out massed material altogether?—A. He shut out mass altogether.

By Mr. Moss:

Q. It must be solid boulder at least a cubic yard?

By Mr. Chrysler:

Q. He used the word 'masses' there, but as I understand you, his view wasn't exactly as it is put in that now?—A. He is quoting the specification.

Q. Your view then was, as you have stated; you haven't told us if you had any view as to what if the whole of the mass of cemented material was not required to be rock how much rock would you consider there should be to bring it within the specification, or do you know?—A. I should say 50 per cent.

Q. There should be 50 per cent of rock?—A. Fifty per cent or over.

Q. That is of the mass?—A. Yes.

Q. There should be 50 per cent or over?—A. Yes.

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Q. If it contained less than 50 per cent of rock how should it be classified?—A. I would return part of it as loose rock.

Q. Well, supposing that the mass is less than 50 per cent in content of rock, but it is all cemented together in clay, cemented clay, or indurated material as mentioned in that description of loose rock?—A. Well, the proportion of cemented material I presume becomes loose rock.

Q. It becomes loose rock?—A. Yes, because you are judging cemented material and not rock.

Q. It is essential to classifying loose rock that it should be imbedded in indurated clay or cemented material?—A. Yes.

By Mr. Moss:

Q. Unless the boulders are more than one cubic yard?—A. Oh, yes.

By Mr. Chrysler:

Q. Then each piece is a piece of rock? Now at the meeting at La Tuque in October, 1907, you didn't come to an agreement?—A. No.

Q. You held to your view and Mr. Lumsden held to his?—A. Well, Mr. Lumsden didn't discuss it.

Q. Did he not?—A. No.

Q. I thought there had been a discussion?—A. (Reads from Exhibit 13):

After this interview I requested Mr. Doucet to make a statement, and get statements from the assistant district engineers, and division and resident engineers on this portion of the work of how they interpreted the specification.

A. Which I did and sent them up to him at Ottawa.

By Mr. Moss:

Q. There must have been discussion?—A. No, I didn't know. I was as much in the dark after the interview was over as when I went there.

Q. Mr. Lumsden heard all you had to say but he did not express any opinion?—A. No, I did not know what he thought after it was over.

By Mr. Chrysler:

Q. Your views were discussed before him?—A. Yes, and before the Grand Trunk engineer, Mr. Woods.

Q. And the contractors?—A. And the contractors, they were there.

Q. Mr. Lumsden makes the statement that one of the matters in which he thought he hadn't been fairly treated was when the commissioners sided with you at that meeting?—A. The commissioners didn't side with anybody, they were not siding with anybody. What was the use of asking us to meet them there for the purpose of discussing the situation if we were not to say anything; if we were not to express our opinions, we were simply discussing the classification and giving our own views which did not bind anybody, the commissioners didn't say anything more than that it seemed to them that so and so, that wasn't binding anybody, it was not binding Mr. Lumsden and it was not binding on us, we were brought up there to discuss the thing fully.

Q. The commissioners were there, or were they all there?—A. They were on the car.

Q. Did the commissioners take any part in the discussion?—A. No—well, yes, they joined in the discussion with us.

By the Chairman:

Q. They argued the question, I suppose?—A. We were arguing the question and what our views were.

By Mr. Chrysler:

Q. But they expressed no views of their own?—A. They said they thought there was something else besides ledge rock.

By Mr. Moss:

Q. Mr. Woods and Mr. Armstrong were taking part in the discussion?—A. Yes, and Mr. Woods said he was much more liberal than our own Chief Engineer who wasn't willing to allow anything more than ledge to be classified as rock, when Mr. Woods was quite willing to give a portion of assembled rock.

By Mr. Chrysler:

Q. That is referring to when Mr. Woods said that he would send a letter?—A. No, in conversation in the car when we were all discussing the question.

Q. Then the commissioners were not giving anything in the nature of a decision? —A. Not at all.

Q. As between you and Mr. Lumsden?—A. Not at all.

Q. Such as saying that you were right and Mr. Lumsden was wrong, but there was what you call an open discussion?—A. An open friendly discussion. The commissioners never went on the work with us.

Q. The commissioners were not forming any judgment from an examination of the work on the ground?—A. Not at all, they did not go out on the work with us, they remained in the car.

Q. Well, then, how long after that was it that the interpretation was decided upon by Mr. Lumsden? That I think was——A. December 14, I think it was.

Q. Yes, it is actually dated, the correct one is dated January 9, but the earlier one is dated December 16?—A. Yes.

Q. That is about two months after this meeting at La Tuque. Then do you understand, without referring to the difference which is not of importance for the present purpose, perhaps, between the interpretation of December 16 (Exhibit 17) and the final one of January 9, 1908, which is Exhibit 20, I think you understand there is a difference in Mr. Lumsden's position as stated in that interpretation and his interpretation at La Tuque in October, 1907?—A. There is, in the terms of the letter.

Q. In the terms of the letter?—A. Yes.

Q. In what respect?—A. That the massed material is to be allowed.

Q. Even if it does not consist wholly of rock?—A. Even if it doesn't consist wholly of rock.

Q. Now, Mr. Lumsden says that that is his position still, but he seems to make it an absolute qualification that rock to be so classified, that the different pieces of rock, or the different boulders, touch other pieces of rock or other boulders.—A. Yes.

Q. Did you know that was his contention before?—A. No, I did not, in fact I had an understanding with Mr. Lumsden as to that very proportion of boulders in the mass.

Q. Yes?—A. In June, 1908, the June following this interpretation when he agreed that if we were returning, if our engineers were returning, solid rock in massed material where there was at least 50 per cent boulders in the mass he was entirely satisfied, and that view was accepted by the Grand Trunk Pacific engineers.

Q. Which of them?—A. By Mr. Woods, the assistant chief engineer of the Grand Trunk Pacific, and that letter can be produced, his letter of acceptance of that can be produced.

Q. We had better have that produced and put in.—A. I think the best way would be to call Mr. Fotheringham, the assistant district engineer, to whom I related the conversation I had with Mr. Lumsden and to whom Mr. Woods wrote accepting that

view; he has that letter from Mr. Woods fixing the limit of boulders in the mass at 50 per cent.

Q. Who is the letter from?—A. It is a letter from Mr. Woods to Mr. Fotheringham, to whom I repeated the conversation in his own office, and Mr. Fotheringham wrote to Mr. Woods, the assistant chief engineer of the Grand Trunk Pacific.

Q. Who is Mr. Fotheringham?—A. The assistant district engineer for the Grand Trunk Pacific in District B.

By Mr. Clarke:

Q. Is this a reply from Mr. Woods to that letter?—A. A reply from the assistant enginer of the Grand Trunk Pacific Mr. Woods, to his own assistant engineer in Quebec accepting Mr. Lumsden's views that there should be 50 per cent, although Mr. Lumsden denies that, or at least he says that he does not remember.

By Mr. Macdonald:

Q. He does not deny it?—A. No. He does not deny it.

Q. But says that he does not remember it?—A. He says that he cannot recollect.

By Mr. Chrysler:

Q. These are letters between Mr. Woods and Mr. Fotheringham?—A. Yes. When I repeated the conversation which I had with Mr. Lumsden to Mr. Fotheringham his answer was that his people would be delighted to hear it, that it was exactly the point determined that would make this thing clear; and the Grand Trunk Pacific engineers and ourselves have been going on that basis ever since and even before that. We go along the work and judge of the classification by the amount of rock in the massed material which must be 50 per cent before we call it rock.

Q. That is inherent in the definition of the specification that it must be rock?—A. Yes.

Committee adjourned.

MONDAY, April 18, 1910.

Committee met at 3.30 p.m., the Chairman, Mr. Geoffrion presiding.

Examination of Mr. A. E. DOUCET, C.E., continued.

By Mr. Chrysler:

Q. Mr. Doucet, in your evidence given on Friday you stated that in June, 1908, after the interpretation, you had an understanding with Mr. Lumsden that if the engineers of your district were returning solid rock in massed material where there was at least 50 per cent boulders, he was entirely satisfied. Now, can you tell us how that understanding with Mr. Lumsden was arrived at—where you met him, and what was the occasion of it?—A. Yes, it was the time of Hodgins' trial, on June 15. I went in to see Mr. Lumsden.

Q. The Hodgins Inquiry?—A. The Hodgins Inquiry.

Q. Here?—A. Here. I went in to see Mr. Lumsden to report how things were going on, and on June 15 I think you will notice in the Hodgins Inquiry that Mr. Hodgins stated that Mr. Armstrong, the district engineer of the Grand Trunk Pacific in Quebec, had said that with the blue print given out to the engineers by Mr. Lumsden in January, 1908, he had no further fault to find with the classification in District 'B.' I went into Mr. Lumsden's office and told him about this. Then

Mr. Lumsden said that for his own information he wished to know what proportion of boulders the engineers in District 'B' considered should be in the massed material before being returned as solid rock; and I said from 50 per cent—at least 50 per cent and more. Then he said 'Mr. Doucet, if that is so I am perfectly satisfied.'

Q. I am looking at the evidence taken in the Hodgins' Inquiry, and see that you gave evidence on that day at considerable length; do you remember whether it was after your evidence was given?

Mr. MACDONALD.—I don't think he gave any evidence.

The WITNESS.—It was simply to identify photographs.

Mr. MOSS.—Who was it gave the evidence?

The WITNESS.—Major Hodgins was giving the evidence.

Mr. CHRYSLER.—I see here, 'A. E. Doucet, sworn.' Yes, you were identifying.

Mr. MACDONALD.—He did not go into any details, I think.

Mr. CHRYSLER.—It covers several pages.

Mr. MOSS.—Page 315 of the Hodgins report begins the proceedings of June 15. Mr. Doucet's evidence begins on page 322.

By Mr. Chrysler:

Q. It was in the presence of the committee that Mr. Hodgins made that statement, was it? Perhaps it was not taken down?

Mr. MACDONALD.—Yes, I think I recollect it. He gave it in his evidence, didn't he?

The WITNESS.—Yes.

Mr. MOSS.—What was the statement?

Mr. CHRYSLER.—You had better repeat it, Mr. Doucet; I cannot give it exactly as you said it.

The reporter read the statement as given by witness.

By Mr. Chrysler:

Q. Now, had you ever previously discussed the question of the proportion of rock which should be found in material in mass in order to justify the engineers in classifying it as solid rock under the specifications?—A. Not with Mr. Lumsden; with Mr. Armstrong, the direct engineer of the Grand Trunk Pacific in Quebec.

Q. It is Mr. Lumsden that I wanted to find out particularly about. I have here a copy of a letter from Mr. Huestis to yourself in reference to the cross-sections; and do you recognize this blue print as a blue print of imaginary cross-sections forwarded to you by Mr. Huestis?—A. Yes. (Blue print filed as Exhibit No. 90).

Q. And this letter of the 27th January from Mr. Huestis accompanied the cross-section??—A. Yes. Both the letter and the blue print were submitted to Mr. Lumsden at the conference on January 29.

Q. Before going into that, I just want to ask you about the cross-sections themselves. As stated in the letter these are imaginary; are they more than imaginary? Are they typical?—A. Oh, yes, they are typical.

Q. They are imaginary; they don't represent any particular spot?—A. They don't represent any one cut, but they often happen in that state.

Q. They represent a great many cross-sections occurring in that sort of material? —A. Yes. I will read the letter:—

EXHIBIT No. 91.

QUEBEC, January 27, 1908.

DEAR SIR,—Attached please find imaginary cross-sections taken in a cut of mixed classified material. In portions of this cut the boulders and rock in masses of over one cubic yard are cemented together with gravel, clay, hard-pan

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or other hard material, best removed by blasting, and the nature of which as a whole, comes under item 5 on the Chief Engineer's diagram of solid rock classification; whilst in other portions the detached boulders are surrounded by material that cannot be ploughed, but necessitating occasional blasting. The blasting is carried on at various points in the cut as best suits existing circumstances and according to the best judgment of the foreman in charge. Any blast that has been successfully made has had the effect of throwing up this classified material in a mixed-up broken mass so that any engineer visiting the cut later or even immediately after the blast would be totally unable to get any correct data to prepare cross-sections, or even measurement notes to define the amount of these various materials. By having the unexposed material in the cut thus brought to view, although in a broken up condition, I take it that the engineer, with what he has observed before, is in a position to most accurately judge the nature of the material, but, as stated before, unable to show measurements or anything else but on a percentage basis.

I beg leave to ask, therefore, how our engineers are to be guided if the latest instructions from Ottawa are to be carried out.

Yours very truly,

H. E. HUESTIS,
Assistant Dist. Engineer.

Enclo.

Now, the instructions from Ottawa referred to there are the letter and diagram that have been referred to so often?—A. Yes.

Q. And which were dated when?—A. January 9, I think, the first set.

Q. What was the occasion of Mr. Huestis writing that letter?—A. On account of the measurement. In the first letter, the first instructions of Mr. Lumsden, he gave out that it had to be measured in all cases, and we wanted to show to Mr. Lumsden that in many cases, in most cases, it was impossible to measure by actual measurement; it had to be done by percentage; and after Mr. Lumsden and we discussed the matter thoroughly, he agreed to put in those words—'unless considered impracticable.'

Q. And that was put in when?—A. On January 30, 1908.

Q. By the letter to yourself which is already in as Exhibit 21, inclosing copy of the interpretation?—A. I think that on page 365 of the Hodgin's Report you will find the evidence referred to, given by Mr. Hodgins. It is the last paragraph beginning 'By Mr. Murphy:—Q. What did this engineer say?' That fixed the date in my mind.

Q. It is not a very clear statement, given by itself. Well, did you bring before Mr. Lumsden this sheet of imaginary cross-sections?—A. That is the sheet, a copy of that sheet, that we used in discussing the matter.

Q. With Mr. Lumsden?—A. Yes.

Q. Now, will you tell us the meaning of the colouring and shading on that sheet of cross-sections? That is on the 29th January?—A. On the 29th January in the board room of the Transcontinental railway.

Q. What is the shaded blue? (Exhibit 90).—A. The shaded blue represents loose rock.

Q. And the white?—A. The white represents the massed material—the assembled rock.

Q. And the blue spaces in it?—A. Are the boulders.

Q. Or in the loose rock?—A. Are boulders.

Q. On this sheet are represented altogether ten different cross-sections showing different sorts and conditions?—A. At ten different stations. The idea in bringing that up was to show that, for instance, after a blast—after the cut was cleared off at station 101—the face of the slope would show as represented there. Then if you went in another ten feet, blasted ten feet more and cleaned it out, it would show as

represented at station 101 plus 10. But no engineer could say what the classification would be between stations 101 and 101 plus 10.

By Mr. Clarke:

Q. What did you say this was? (pointing to portion of Exhibit 90)?—A. This is loose rock; this is individual boulders, may be more or less than one cubic yard. No engineer could say. You could only make out what the material is by looking at the cut after the cut has been cleaned out.

By Mr Moss:

Q. Is there any common in that at all?—A. There might be a certain amount of common in here (indicating).

By Mr. Chrysler:

Q. As I understand it, those two stations that you show there are ten feet apart? —A. Ten feet apart, yes.

Q. And is that amount of variation possible or common in the cuts that you have in your mind?—A. Oh yes.

Q. Are those stations 101 and 101 plus 10, and the others on that sheet, taken from actual profiles?—A. Oh, no, they are simply imaginary. It is imaginary to that extent.

Q. So that the stations—101 and 101 plus 10 are imaginary also?—A. Yes, to show that they are ten feet apart.

Q. That is only to show that they are ten feet apart?—A. Yes.

Q. And that such changes occur within that distance?—A. Yes.

Q. Now take the next one; what is the station marked on the plan there for that?—A. 100 plus 70.

Q. Now, 100 plus 70 consists wholly, according to the meaning you have given ——?—A. It consists wholly of massed material and common excavation. The white represent the common excavation.

Q. And the bottom and sides of the cut at that point?—A. Massed material.

Q. Taking those ten cross-sections which appear on that sheet, what is the difficulty? Explain it if you can in such a way that it will appear upon the notes—in measuring the quantity of loose rock, solid rock and common excavation?—A. On dividing it up, you mean, and classifying it?

Q. Yes, and classifying it?—A. Well, as I said of station 101, looking at it this way would show there is about 75 per cent——

Q. Looking at it what way?—A. Looking at it by this cross-section.

Q. That face of it?—A. Yes, the face of it. That would be about two-thirds of the whole of the quantities in that cross-section.

Q. The whole of the perpendicular plane?—A. Yes, the whole of the cross-section, which would be massed rock. At 101 plus 10 there would just be about 50 per cent. It divides about evenly in the middle.

Q. That is, between the loose rock and the solid rock?—A. Between loose rock and massed rock, yes.

Q. That is your judgment from that profile or cross-section?—A. Yes.

Q. You have given a judgment upon those two there now; could you with the same ease or with any amount of care measure it?—A. Oh no; that is simply by the yard; that is what we call arriving at the quantities by percentages.

Q. Perhaps you have explained already the difficulties of measuring it?—A. Well, you can't tell what there is between these two. Once a thing is blasted the whole nature of the material changes; the whole thing is mixed up. You can't even say whether it was cemented. A great many of those boulders fly out of the cuts, so that no man could go to work and measure with a tape each boulder, to arrive at the quantities, nor say how many of them.

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Q. Nor say how many of them came out of the loose rock or how many of them were cemented material; that is your idea?—A. Yes, that is the way the Grand Trunk Pacific engineers and ourselves go to work to arrive at that classification.

Q. That explanation applies to all ten of those cross-sections?—A. Yes, there is nothing more to add to that.

By Mr Moss:

Q. That method was acquiesced in by the Grand Trunk Pacific engineers?—A. Yes, that is the way they did. That is the way they classified. The district engineer of the Grand Trunk Pacific always comes with me when I go on the line, and we take the classification that way. That is the only way—the only practical way—to arrive at it.

By Mr. Chrysler:

Q. Has that been done during the progress of the work?—A. Oh, yes.

Q. Regularly?—A. From the start.

Q. And constantly?—A. Constantly.

By Mr Moss:

Q. Whatever dispute there may have been with the Grand Trunk engineers is simply as to the estimates?—A. The disputes arose before that interpretation was given by Mr. Lumsden on January 30—before he gave that interpretation of massed material.

Q. There was no suggestion by the Grand Trunk engineers that it ought to be measured any other way than the way you adopted?—A. No; they don't do it themselves; they can't do it themselves.

Q. They never suggested it?—A. No.

By Mr. Chrysler:

Q. It is clear, but I just want to have it clear upon the notes, that Exhibit 90 was the actual exhibit which you prepared for discussion of this matter with Mr. Lumsden in January, 1908?—A. Yes.

Q. It is not a new exhibit, gotten up for the purpose of this inquiry?—A. No, no it is the same one.

Q. I don't know that I need to pursue that any further. You produced some photographs to Mr. Lumsden; you only identified them then?—A. Yes.

Q. You might give us any information you have that will make clearer what those photographs show?—A. It reads all right, I think. I read the evidence over. It reads fairly well.

Q. It shows?—A. Yes.

Q. Have you any more photographs of the kind?—A. We have got smaller photographs, not that same size.

Q. This is a typical or imaginary set of cross-sections which you have shown us in Exhibit 90; have you got any actual cross-sections returned, showing how the classification was noted on the cross-sections as they were returned from time to time?—A. Yes.

Q. Did Mr. Huestis prepare this blue print (Exhibit 90) ?—A. Yes.

Q. And Mr. Huestis was what?—A. He is my assistant engineer.

Q. Do you say yourself that these are fairly illustrative of difficulties existing in many of the cuts on section 'B'?—A. Well, in a good many cases this massed material extends over the whole of the cross-section; but this has been gotten up to show that in many cases, also, there are breaks between the massed material, loose rock and the common excavation, and therefore that it was impossible to get a classification by actual measurement. We had to arrive at it by percentage.

By Mr. Moss:

Q. And I suppose to show the irregularity?—A. To show the irregularity.

By Mr. Chrysler:

Q. And I suppose this is exaggerated a little for that purpose?—A. No, there are many cases fully as bad as that.

Q. Where we have such a cross-section as that which is shown on this sheet as 101 plus 10—there is none on that sheet in which the material is all assembled rock or massed material?—A. No.

Q. But in a cutting in which the material was all massed material there would be no difficulty in measuring it?—A. No, there is no difficulty in measuring the whole quantity in a cross-section. The difficulty is in dividing it in different classes.

Q. Now what have you?—A. You asked me for a typical cut showing the division between the two classes. This blue print (exhibit 92) shows what was actually on the ground. There is the cut, 3210 to 3215. The top line on the blue print at station 3211 plus 34 is the surface line. Then the side lines are the slopes—quarter to one slopes. The material between these slopes is solid rock in this case—ledge rock.

Q. That is what it is marked?—A. Ledge rock. Then outside those slope lines, the quarter to one slopes, there is what they call overbreak.

By Mr. Moss:

Q. It is marked 'O.B.A'?—A. That is overbreak area.

Q. Then there is one on the right?—A. That is overbreak also, on the right.

Q. Then what is that 'P.A. 179' again there?—A. That is the area of the whole. That is the area of this solid rock.

Q. What does the 'P.A.' stand for?—A. Prism area.

By Mr. Chrysler:

Q. Can you show us one?—A. Here is 3212 plus 68. Those are the totals at the side. We will see these afterwards. There is one here that section at station 3292 plus 50 again. The top line in this cross-section is the surface line, and the side lines quarter to one slopes, at least the material between the quarter to one slopes is solid rock, ledge again. Then outside of these quarter-to-one slopes you have overbreak. Then between the top surface line, some five feet down, there is another line shown, a horizontal line shown to the right of the section, and the material contained between the two lines is massed material that is shown overlying the ledge rock.

By Mr. Moss:

Q. There would be no difficulty in measurement in that case?—A. Well, but here there may be solid rock and there may be loose rock, and there may be common excavation in this portion here (pointing). That is where the difficulty comes in—in deciding the material shown in this prism here, in this triangle.

By Mr. Chrysler:

Q. I think you started to tell us, that does not make what I called a picture of the way the material lies upon the cross-section?—A. Oh, the cross-section is simply taken out to show the quantities at the different stations marked below.

Q. And the lines are to some extent conventional?—A. The surface lines are exactly as taken there with the levels from cuts.

Q. But the lines dividing the massed material from the ledge rock?—A. From the ledge rock is all right. The line dividing the ledge rock from the massed material is all right, quite correct; it is the division of the massed material itself.

Q. There is a line there dividing it, is there?—A. Yes, this line here. This is the top of the ledge here, and between the lower line and the top surface line is where the massed material occurs.

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By Mr Moss:

Q. There is no division of the massed material into three portions?—A. No.

Q. That occurs on some blue prints, doesn't it?—A. No.

Q. Not on your district?—A. No.

Q. Well, then, what does the whole of that show, what is the summary of the cross-sections for all those stations shown on that sheet?—A. Well, this is the cut from 3210.69 to 3215, and the summary of it is, solid rock for the prism 1139 yards, we will leave out the decimals; overbreak, 327 yards; mass rock, 331 yards; and loose rock, 41 yards.

Q. Then all the rest is measured, I take it, is that right, but the mass material is divided by percentage, is that what you mean?—A. Yes.

Q. Then that illustrates exactly all you have been explaining to us, the mixed material consisting in all of 357 yards?—A. Yes.

Q. Is divided into—— ?—A. Into rock percentage 267 yards and loose rock 90 yards, making a total of 357 yards.

Q. Can you give us a copy of that?—A. You can have that.

By Mr. Moss:

Q. Whenever mass rock occurred in such shape that it could be measured——? —A. Whenever it occurred in such shape that it could be shown on the cross-section it is shown.

Q. In every case it is shown under the name of mixed material along with loose rock, common excavation, or both?—A. The material of which it is comprised may be rock, or loose rock or common excavation.

Q. It is shown just under the heading of mixed material and the percentages are shown in the same way at the side?—A. Yes.

Q. These cross-sections, for the information of any one looking at them, number from the upper left hand corner down?—A. Down to the lower corner at the right hand.

Q. That is the way you read them?—A. Yes.

Q. And the two that I see here at the lower right hand corner are fillings?—A. Embankments.

Q. Yes, embankments. Well, is there anything else of this description that will be of any use to us, Mr. Doucet?—A. We have these other cross-sections here.

Q. I don't wan't to multiply them, or go over the same ground, if there is nothing new in them.—A. You might take another one. This, for instance.

The CHAIRMAN.—That is practically the same thing, isn't it?—A. Yes, practically the same.

Q. The same formation?—A. Yes, practically the same formation.

By Mr. Chrysler:

Q. That is one of which Mr. Lumsden has spoken in his evidence, is it not?—A. Yes.

Q. What stations are covered by the cross-sections of this sheet?—A. 5322·25 to 5338 (document filed as Exhibit 93).

Q. Now, these cross-sections the majority of them, are cuttings—but I see that there are some here, three of them in the second column, that are embankments. What is the name here? Brochet river?—A. Yes.

Q. That indicates the place where these cross-sections are taken?—A. Yes.

Q. Now, what is there about this set of cross-sections that you want to call attention to?

Mr. HUESTIS.—One of those cuttings is mentioned by Mr. Lumsden, the other one is not. 5324 to 5328 is the one Mr. Lumsden mentions.—A. We only need to take the one at the left hand side.

Q. What does that show?—A. At station 5325·50 there is a cross-section there, the top line is the original surface taken with the level, the side lines, the inner side lines to the right are the ¼ to 1 slopes, the outside line is the overbreak outside the slopes.

Q. Now, the lower part of the cross-section consists of ledge rock as shown on the cross-section, solid rock; immediately below the top surface line. is a second line, showing the top of the ledge rock, and the material between the top of the ledge and the surface is massed material.

Q. Yes?—A. And that is divided into percentages.

Q. That it is to be divided and was divided in the summary which appears at the foot of the sheet?—A. Yes.

Q. Now on this sheet, where you have summarized the cross-sections for probably 20 stations or so, have you put into a smaller scale the information contained on larger cross-sections? Have you a cross-section on a larger scale from which this is compiled?—A. No, this is on the regular scale.

Q. This is the regular scale, is it?—A. Yes, that is the regular scale of all the cross-sections.

Q. We see some on a larger scale?—A. Oh well, those are not regular cross-sections, this is drawn on the regular scale.

Q. This is drawn on the regular scale prescribed by the instructions to the engineers, I suppose?—A. Yes.

Q. And when we see a cross-section on a larger scale we are really seeing a magnified—a magnified copy of the regular scale?—A. A magnified copy of the regular scale.

Q. Of the regular cross-section?—A. Yes.

Q. However, this is on the regular scale?—A. Yes.

Q. These cross-sections in Exhibit 90 are on a larger scale, are they not, this is an imaginary cross-section?—A. Oh, no, that is on the regular scale.

Q. Here is Exhibit No. 90, surely that is on a larger scale?—A. I do not know whether it is marked there or not—(examining exhibit.) No, that is the regular scale although it is a larger cut.

By Mr. Moss:

Q. It is a deeper cut?—A. Yes, that will be about 30 feet high, this one would be about 20 feet high in the centre, while the other would be about 30 feet high.

By Mr. Chrysler:

Q. I had the wrong impression then?—A. This one, for instance will be on the same scale, they are all 10 feet to the inch.

Q. The one shown, 5333·35, in Exhibit 93, is about the same size as the cross-section shown on Exhibit 90?—A. How many feet is it.

By Mr. Moss:

Q. Twenty feet?—A. Yes, there is 20 feet.

By Mr. Chrysler:

Q. It is the same size as the cross-section shown at station 101·35, Exhibit 90?—A. Yes.

Q. Now the cutting shown in the left hand column, I think it is?—A. In the left hand column.

Q. Of Exhibit 93 has been re-measured, has it?—A. Yes, it is one of the cuttings mentioned by Mr. Lumsden.

Q. It is one of the cuttings mentioned by Mr. Lumsden in his memorandum or illustrations, Exhibit 2, page 79 of the evidence. When was it re-measured?—A. It was re-measured this last fall in the month of November.

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By Mr. Moss:

Q. 1909?—A. 1909. These cuts are all being re-measured. Of course the re-measurements are not finished yet, but the cuts mentioned by Mr. Lumsden are all being re-measured.

By Mr. Chrysler:

Q. Well, the result of these re-measurements is shown here, this is correct now? —A. Yes.

Q. As stated by Mr. Lumsden it was classified as rock—it is not correctly stated there, according to this printed copy of the evidence.—A. These were the returns.

Q. The original quantities were solid rock 2349, loose rock 667, common excavation 202 yards. The re-measurement gives the same total, but the result is 2325 solid rock, 704 loose rock, and no common excavation.—A. No common excavation, Mr. Lumsden complained that the solid rock was not measured, I think that is his note there, isn't it?—A. It is 'classified by percentage,' that is the note here.

By Mr. Clarke:

Q. What do you mean by 'original quantities'? That was the first return?—A. That was the first return at the time Mr. Lumsden made his trip of inspection.

Q. That was in July?—A. Yes, in July.

Q. Who made the re-measurements?—A. I had the re-measurements made, we are having all the cuts complained of by Mr. Lumsden re-measured.

Q. You cut out common excavation entirely out of that cutting?—A. Yes. Mr. Clarke has just said that we cut out common excavation altogether. The engineers in the first place, before Mr. Lumsden went up there, returned 'back fill' in these cuttings in this massed material, the engineers took it for granted that they were taking such cuts out one foot below grade.

Q. That is that the contractor was?—A. That the contractor was, and was filling in with spauls the same as they do in ledge rock. Well, it is not necessary in massed material, because the stuff all goes back, and it is just about the same as spauls; that is what is meant by the term 'back fill,' and, in re-measuring, the back fill has been cut out making 202 yards less of common excavation to be returned in that cut under the re-measurement.

Q. It is simply cut out, not added to the rock?—A. Yes, cut out.

By Mr. Clarke:

Q. That is practically the same material that is already charged for under other heads?—A. Yes, that is practically the same material.

Q. Is that one of the cuttings these figures are for?—A. Yes.

By Mr. Moss:

Q. That back filling is something that wasn't actually done by the contractor, but the engineer supposed that it was being done?—A. Yes, and we sent orders out that in cuts composed of mass material these cuts were not to be taken out to 1 foot below grade but that back filling was to be done only in cuts of ledge rock.

By Mr. Clarke:

Q. The other figures are pretty nearly the same?—A. Well, it is impossible to arrive exactly at it, Mr. Clarke.

By Mr. Moss:

Q. As a matter of fact you have shown 13 yards more material taken out in the re-measurement than in the original measurement?—A. Yes.

Q. And you showed 24 yards less of solid rock in the re-measurement than in the original measurement and some 37 yards more of loose rock in the re-measurement than in the original measurement?

Mr. CLARKE.—The figures show that.

By Mr. Chrysler:

Q. I notice one thing there, Mr. Doucet, in this example there is a certain amount of ledge rock shown in the re-measurement here, 523 yards inside, and 131 yards outside the slopes, that is 654 yards altogether, which wasn't shown in the original?—A. It was not divided in the same way.

Q. Just explain that.—A. Well, in the first one, in the original quantity, the mixed material consisted of 2,000 yards, they put the whole of the quantities of the cut there in mixed material but in the re-measurement they have divided the whole quantity into ledge rock, into rock outside the slope and rock below the sub-grade.

Q. And the mixed material?—A. The mixed material is shown separately.

Q. The mixed material in the second measurement being—A. 1,430.

Q. And in the first?—A. 2,000, it is just another division, the total quantities are practically the same.

Q. Doesn't that seem to show that the engineers did not in all cases ascertain by measurement the amount of ledge rock?—A. In some cases they did not, and that is why these re-measurements are being taken.

How is it, what is the course of practice in making the re-measurement? We have been told that there is a great deal of difficulty in making a re-measurement of ground, it has been suggested in the examination of Mr. Lumsden.—A. Not in arriving at the total quantities, but there is in dividing the massed material.

Q. Well, how do you solve that difficulty?—A. The only possible way, and then it is only more or less of a guess, is to dig test pits opposite every station shown on the cross-section, the original cross-section, and even then you may not arrive at what was in the original prism, the same classification.

Q. And that has been done?—A. That has been done, but the test pits are not dug yet, we only started in October to do it, but we could not go on, we had to give it up.

Q. The work has been interrupted during the winter?—A. During the winter.

Q. Test pits were dug in this one you are giving us?—A. No, this is ledge rock and the mass material shows so plainly on the side there is no necessity for digging test pits, it is where the slopes show something like gravel with a few occasional boulders, and where large quantities of massed material are returned in the cutting, test pits become necessary.

Q. Where the outward appearance does not indicate——A. Does not indicate what was there before, previous to the taking out.

By Mr. Moss:

Q. One or two pits in a cutting would be no guide at all?—A. Would be no guide at all, that would be guesswork.

By Mr. Chrysler:

Q. There is another thing occurred to me in the previous example, it does not occur so much in this one, that there is a considerable amount—yes, this one I have (Exhibit 92) with all these cross-sections. Take for instance what would be your explanation for the allowance for overbreak, perhaps it wasn't allowed, but tell me first whether it was allowed, and if so whether it was proper to allow it in such cases?—A. It is a difficult matter by looking at the cross-section to say whether overbreak should be allowed or not, one must look at the rock itself and see it in order to express an opinion. There may have been some seam at the back and the blasting might upset and bring the rock down, and the contractors could not help but remove that; you cannot tell by looking at the cross-section, but I notice it is allowed in the re-measurement here, and so I take it for granted that it is quite justifiable.

Q. Excuse me, I do not think we have any evidence that this has been re-measured, at least you haven't given it to us at all—A. (Examines Exhibit), No, not this one, those that are re-measured are signed by Mr. Porter.

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Q. These are the two profiles at the bottom of the first column, on the left, the two cross-sections, and the two at the top of the second column?—A. Exhibit 93, there are 131 yards of overbreak allowed.

Q. Does that differ in the re-measurement from the amount allowed under the original measurement?—A. I don't think the overbreak was shown, simply the whole prism was shown in the first case.

Q. Yes?—A. But after Mr. Grant was made Chief Engineer he sent out instructions that in all cases overbreak should be divided from the quantities in the cutting by a distinct line, which is being done.

Q. That was not done before?—A. No, not in all cases.

EXHIBIT NO. 94.

COMPARATIVE STATEMENT.

Cut 5324-5328.

Original Quantity.	Solid Rock.	Loose Rock.	Com. Ex.
Mixed Material	2,000	667	
Below Subgrade	238		
Surface Ditch	111		
Backfill			202
	2,349	667	202
Remeasured Quantity.—			
Ledge Rock	523		
" Outside Slope	131		
Below Subgrade	130		
Mixed Material	1,430	704	
Surface Ditch	111		
	2,325	704	

Note :—Backfill cut out.

Q. And the quantity of overbreak in this particular cutting is not large, at least, not on the two cuttings shown on this sheet?—A. No.

Q. But whatever it is it has been accepted by the——A. By the engineer appointed to re-measure cuts, Mr. Porter.

By Mr. Moss:

Q. Just for the purpose of understanding the matter. Where assembled rock occurs and is returned as solid rock, is anything outside the ¼ to 1 prisms returned as overbreak?—A. No; the return is massed material whatever it is.

Q. If it is outside the ¼ to 1 prisms?—A. The massed material does not come in in that way. If it is taken out of a 1 to 1 slope it is shown on a 1 to 1 slope on a cross-section. The cross-section shows the actual slope taken out.

By Mr. Chrysler:

Q. It largely varies with the hardness of the material?—A. With the nature of the material.

By Mr. Moss:

Q. And we have only that overbreak on——A. On ledge rock.

By Mr. Chrysler:

Q. I think it has been said—I do not know whether you have said so or not—that with the exception of the massed material on your district, the overbreak is not of much importance?—A. Not of much importance.

Q. I think the witnesses so far agree that it is on District 'F' that the overbreak constitutes a large item?—A. Yes.

By Mr. Clarke:

Q. Does the statement put in as a sample one containing the figures show the difference between the original returns and the re-measurement?—A. Yes, Exhibit No. 93.

By Mr. Chrysler:

Q. Is it fairly illustrative of the result of the re-measurements as compared with the other classification?—A. Yes.

Q. How far has the remeasurement proceeded?—A. I do not suppose there are more than forty or fifty cuts finished. But those are the cuts as to which there is not very much doubt. Wherever test pits are needed we have had to put them to one side until next year.

Q. You really, then, cannot answer very fully Mr. Clarke's question as to the result of the measurements compared with the original classification?—A. Only from my experience of the work.

By Mr. Moss:

Q. Will test pits be of any value in cuts resembling those typical cuts shown in Exhibit No. 90?—A. In some cases they may be. For instance, there are some of these cuts where the loose rock comes in on the side and there is a pyramid in the middle of massed material, solid rock. Well, you would have to dig in and possibly cut in 10 or 20 feet, and in some cases go outside of the cut altogether, in order to see what the material is outside of the cut and to ascertain whether it conforms to the material returned.

Q. I mean if there was a pyramid of assembled rock in the interior of the prism surrounded on both sides by loose rock you would never get by digging into the sides of the cut any intimation as to that?—A. Very likely another pyramid will come outside the slope again. If it does not look level at all, it has to be cut down.

Q. It may be twenty or thirty feet away?—A. That is why I say you may have to go outside the slope altogether.

Q. It would not be practicable to dig twenty or thirty feet into the bank; you would have to have another railway?—A. Another cutting. It would not do to dig another cutting, and therefore you have got to do the best you can.

Q. At the best it will be a very rough method?—A. In some cases it will.

Q. And of course where there are pockets the same thing would apply?—A. Yes.

By Mr. Chrysler:

Q. I was going to ask you, Mr. Doucet, if you can give us any information with regard to those places to which Mr. Lumsden has drawn attention in his printed memorandum, taking not the whole list, because that would be an unnecessarily long process, but some of what appeared to be the more important from the quantities mentioned. Have you got a copy of this statement before you?—A. No, I have not got a copy.

Q. Now, here is one which is large, and I want to see if you can give us an opinion on it, or if not who can. This is to be found on page 80?—A. What is the number of the station?

Q. The station is mentioned in two or three places. It is mentioned first at page 27, station 6824 to 6830. It was estimated to contain 12,014 yards of rock, 9,550 yards of loose rock, and 5,687 yards of common excavation?—A. Those are the figures given Mr. Lumsden. They are the progress estimates.

Q. Mr. Lumsden's note with regard to it is:

No rock in sight. Say one-eighth L. R. remainder C. E.

A. (After referring to cross-section.) That is massed material. Mr. Lumsden was judging from the slopes in that case without digging any test pits. That is all massed material.

Q. Have you got the sheet showing the cross-sections for that cutting?—A. This has not been re-measured yet. These are the original cross-sections, these three sheets (producing cross-sections). (Exhibit No. 95.)

Q. These three sheets show the whole of that cutting?—A. Yes.

Q. It does not agree with the figures that are given here. I wonder if you are looking at the right place?—A. Station 6824 plus 14 to 6827 plus 50.

Q. Well, in this statement it appears as 6824 to 6830?—A. To 6827 plus 50.

Q. What is the date of the statement at the foot of the sheet? It may have been earlier or later than the one from which Mr. Lumsden took these figures. It only varies in a small amount?—A. Yes.

Q. But the figures you have are not the same as those in Mr. Lumsden's statement?—A. I see no date on this (referring to cross-section).

Q. You cannot tell the date?—A. No.

Q. The figures upon the summary of these cross-sections show: solid rock, 11,864; loose rock, 9,521; common excavation, 5,987; total, 27,372. You cannot explain to me why these figures differ from the figures Mr. Lumsden gave us?—A. Some changes might have been made in the cut after Mr. Lumsden took those.

Q. Then, looking at these three sheets, Exhibit No. 95, what sort of cutting was that?—A. Composed of massed material.

Q. And so indicated on the sheets?—A. Yes, on the sheets.

Q. What do the initials 'M. M. A.' mean?—A. Mixed material area, that is.

Q. Now, looking at each one of the cross-sections on these three sheets the whole of the material there shown is stated to be mixed material?—A. Yes.

Q. Do the slopes show whether it was an excavation in ledge rock or not?—A. No. They show an excavation of 1½ to 1 in some places.

Q. Are they consistent with excavation made in ledge rock?—A. No. Not in ledge rock.

Q. Then the note may be true, 'No rock in sight'? I suppose there would not be rock in sight?—A. No. It does not show it on the cross-section.

Q. The cutting never was returned as anything but mixed material?—A. But mixed material.

By Mr. Clarke:

Q. Is the slope in that case 1½ to 1?—A. No. Not in all cases. It may be ¼ to 1, or 1 to 1, or 1½ to 1.

Q. If it were assembled rock would it not be ¼ to 1?—A. No. It depends on the boulders coming down. You have got to bring down the boulders and that flattens the slope. The more boulders that come down the flatter your slope gets until you get to such a point that the boulders will not roll down any longer. Then it is a common excavation slope of 1½ to 1.

By Mr. Clarke:

Q. Has this been re-measured?—A. No. These are the original cross-sections. It has not been re-measured.

By Mr. Chrysler:

Q. Were these cross-sections available when Mr. Lumsden made his trip?—A. Yes. The engineers had them on the ground.

Q. When he made his trip in June?—A. Yes. In June.

Q. The engineers had them in their possession?—A. Yes. They were carrying them along with them but he never looked at them.

By Mr. Moss:

Q. Would you recognize this cut if you saw it in the profile, would you remember it?—A. No. There are thousands of these cuts. However, the cross-section is right.

By Mr. Chrysler:

Q. Mr. Lumsden may be perfectly right in his note 'No rock in sight'? That was not the controversy at any time as to this particular cutting?—A. Not that I know of.

Q. The engineers didn't contend that there was ledge rock?—A. Not at all.

Q. At that station?—A. And they show it plainly on the cross-section by calling it massed material.

Q. And whether it was massed material or not was a matter that depended upon ——A. Upon the judgment of the engineer upon the ground.

Q. Or of his superiors? Mr. Grant says so.—A. I think on that blue print you will see that in order to determine whether it is massed material the Chief Engineer will have to visit the ground or in his absence the engineer in charge.

Q. Well, do you include the judgment of all these different officers in the word 'engineer'?—A. Yes. The division engineer and the resident engineer.

By Mr. Moss:

Q. Who are on the ground?—A. Yes. They are in charge of the work.

Q. Nobody, as I understand it, unless they are constantly on the ground——A. On the ground they have to be.

By Mr. Chrysler:

Q. Personally you have no recollection of that particular cutting?—A. No.

Q. You do not identify it in any way?—A. No. And the cut has not been re-measured yet.

Q. There is another one just below that which is still larger in quantity, station 6947 to 6959. (Exhibit No. 96.)

By Mr. Clarke:

Q. At what intervals were these taken?—A. The stations are marked underneath, Mr. Clarke.

By Mr. Chrysler:

Q. But no less than 100 feet apart?—A. Yes. The stations may be 10 feet or 100 feet apart.

By Mr. Moss:

Q. But always 100 feet apart?—A. They are very often 10 or 5 feet apart. It depends on the surface of the ground.

By Mr. Chrysler:

Q. Now, have you got that cutting?—A. Yes.

Q. Station 6947 to 6959?—A. Yes. That is massed material.

Q. That is massed material also?—A. Yes.

Q. See if the figures on the cross-section are the same as those in Mr. Lumsden's statement?—A. This is such a poor blue print I can hardly see the figures.

Q. Well then, the figures on the last sheet of this exhibit are shown in the memorandum before you, and Mr. Lumsden's note as to that is:—

> 'This seems all C.E., no R., but a per cent of L.R., say twenty-five per cent for boulders, some of it good ballast.'

What do the cross-sections show the cutting to have been?—A. Massed material.

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Q. Can you say whether it was or not, personally from your own recollections of it?—A. No; not off-hand.

Q. There is no place on the cross-section where ledge rock is indicated?—A. No; none. But I might say, Mr. Chrysler, that in that country—the whole of the St. Maurice district—no man alive can go on the ground two years after the work is finished, or six months after the work is finished, and say what the material was that the cuts were composed of. It is in that country where the doubt occurs. That is one of the cuts on the Upper St. Maurice. The whole of these cuts are on the Upper St. Maurice.

Q. Direct your attention to this one. Can you tell us why you cannot go on the ground a year or two afterwards and say what the material was that the cut was composed of?—A. (Producing photograph, Exhibit No. 67). The stuff in the centre is ledge rock, but if you will look at the left hand side of the picture, at the formation, no man can go on the ground two years after such cut is taken out and say whether it is gravel, or solid rock, or loose rock, and state what the proportions of each were. That is why, because it occurs in this shape.

Q. Why?—A. That is the reason why.

Q. Why could he not; what changes would take place in two years?—A. Well, the slope is taken out.

Q. It is gone?—A. Gone. The boulders have rolled down, have been taken out, and it leaves the material——

Q. Does the material itself disintegrate?—A. Disintegrates, and the easier stuff falls down and covers the slope.

Q. Ledge rock can be found?—A. Ledge rock can be found wherever it is.

Q. What you have been calling in your evidence 'mixed material,' loses the appearance of rock after a certain amount of exposure?—A. After a certain amount of exposure, and the softer material from the top falling down covers the holes from which the boulders have come.

Q. That seems to be quite reasonable, but if there are boulders to the amount of fifty per cent in the cutting before the excavation is done won't you have these boulders somewhere? Mr. Lumsden says there will be material in the embankment to show for it?—A. No, because when this material is exposed to the weather for a certain time the boulders fall down. If it is exposed long enough there won't be a single boulder showing; they will fall down and the cemented material will cover them.

Q. They will be under the slopes?—A. There are many of these cuts without a boulder showing, but when you dig in fifteen or twenty feet into the slopes you will find nothing but a mass of boulders.

Q. If you dig in six feet you say that is not deep enough?—A. Not deep enough.

Q. You have not quite answered my question. Mr. Lumsden says, that apart from the appearance of the slopes which he admits may be fallacious, the boulders should be found in the embankment?—A. Quite so. They are at the toe of the slopes.

Q. At the foot of the embankment?—A. At the foot of the embankment, yes. but there again when the cuts are just about being finished, you have to level up the embankments as well, and you select an easy spot, if there is an easy spot in the cut, from which to take material to trim up your embankments and to trim up the slopes. This material falls over the slope and covers up the boulders at the foot of the slope so that it is only by digging into the slopes of the embankment as well as into the slopes of the cut that you can say approximately what was in the cut when it has been taken out. Mr. Lumsden has said you do not trim up the embankments, but do you? No engineer will accept work unless the embankments are trimmed up as well as the cuttings.

Q. I don't remember that he said so, that the embankments were left in that

way?—A. That you simply fixed up the top and didn't trim up the face of the slope. The softer material when the slopes are evened up rolls down to the bottom of them and covers up the boulders.

By the Chairman:

Q. And you say it is not surprising that he did not find any rock inside?—A. It is not surprising, but he did not take the proper place to find it. He could not say unless he was on the work to find out. He had never been on this work once since it started. This was the first trip, the arbitration trip, that he made up there.

By Mr. Clarke:

Q. I thought he was up there in 1908?—A. He never went on the ground. He went up to La Tuque, but this is north of La Tuque. He walked five miles at La Tuque.

Mr. CLARKE.—He was at La Tuque in 1907.

Mr. CHRYSLER.—But only over a few miles.

The WITNESS.—It is not in dispute with the Grand Trunk at all.

By Mr. Chrysler:

Q. It is in Mr. Lumsden's memorandum?—A. Yes. But it is beyond the disputed territory.

By Mr. Moss:

Q. Mr. Lumsden took the quantity of solid rock and turned it into common excavation according to his notes?—A. Yes.

By Mr. Chrysler:

Q. I was going to ask you whether it is shown on the cross-section that the material, whether rightly or wrongly, was classified as mixed material?—A. Yes. It is marked.

Q. Marked on each cross-section?—A. Yes.—On each cross-section.

Q. So that anybody having these sheets and the cross-section shown on them would have known that that was the classification which he had to criticise?—A. Yes.

By Mr. Macdonald:

Q. Mr. Lumsden did not look at these cross-sections?—A. He looked at them walking through and judged from the nature of the slope. From what was left of the slope he said he judged there was no rock there.

Q. Did he ask for the blue print?—A. He didn't ask for the blue print at all.

By Mr. Chrysler:

Q. Mr. Lumsden's note says: 'This seems all C. E., no R., but a per cent of L.R., say 25 per cent for boulders, some of it good ballast'?—A. I don't see how he could make good ballast out of loose rock. He says there should be a percentage of loose rock, and then he goes on to say that it should be good ballast. I don't see how he could——

Q. He says 25 per cent for boulders?—A. Yes. I don't see how he could make good ballast out of 25 per cent boulders.

Q. At all events he seems——A. At all events he judged from the looks of the slope at the time he made his five-minute inspection.

Q. The look of the slope would be as shown there; that is with a slope of one and one-half to one?—A. Yes, in some cases one to one, and in some cases one and a half to one.

Q. Of course, it would need no very great amount of engineering experience to know that that was not cutting ledge rock—A. No, of course.

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Q. Well, now, take another one which is large in quantity—that is the principle on which I am selecting these—6761-70; what are the figures?—A. 18,709 solid rock; 17,245 loose rock; 10,645 common excavation. (Exhibit No. 97.)

Q. Now what do the cross-sections on those sheets show?—A. This is all massed material.

Q. There is no ledge rock shown on the cross-sections at all?—A. No.

Q. And the quantities are, roughly, about one-third each; that is to say one-third of rock, one-third of loose rock and one-third common excavation?—A. Well, in this one there is less of common excavation.

Q. How much is there there?—A. 10,645.

Q. Now, Mr. Lumsden's note on that is, 'May have been a few yards rock.' Well, if that means ledge rock, that would be correct, would it—there was none?—A. There was none shown here at all.

Q. Of course, Mr. Lumsden is speaking of the appearance of things on the ground?—A. Yes.

Q. He may have considered that there was some ledge rock there?—A. I don't think so.

Q. There was not any appearance of any ledge rock?—A. No. If there had been ledge rock it would have been shown on these cross-sections.

Q. Then on the cross-sections the whole is stated to be massed material?—A. Massed material.

Q. The same stations are repeated on page 80 of the proceedings, but it is the same figures, and it is evidently the same place. They are repeated under another heading?—A. Yes.

Q. Now, taking these cross-sections at which we have been looking, and these illustrations which Mr. Lumsden furnished, and your knowledge of this material, what do you say as to the classification Mr. Lumsden made as being governed by the interpretation which he had given on the 14th January?—A. Well, I can't help but say that Mr. Lumsden's classification is simply ridiculous from my experience, from my knowledge of the ground, and the cuts as they were being taken out, when they were being taken out, and after very frequent visits to them.

By Mr. Macdonald:

Q. This statement of his in notes you characterize in that way?—A. Yes, I do. They made a five-minute inspection of a cut like that with 40,000 or 60,000 yards of material in, and decided what the classification was, when it took from March 1907 to August, 1908, to take it out. The engineers were there for fifteen months, month after month, looking at that work being taken out; and it is impossible on a five-minutes inspection, without digging test-pits, to say that there should be 25 per cent—and no rock in sight—should be 25 per cent of loose rock.

By Mr. Chrysler:

Q. It was not claimed in any of those cases that we have been looking at that the measurement was based upon the existence of the ledge rock?—A. No, evidently not.

Q. It was not claimed that the measurement of ledge rock was based upon measurements of boulders containing over one cubic yard each?—A. No.

Q. Throughout the contention, the claim or representation or whatever you may call it, of the engineers on the ground, was that those cuttings contained mixed material?—A. Mixed material—boulders and cemented material which would best be removed by blasting, continuous blasting, in the judgment of the engineer.

Q. Did you revise this classification?—A. I have in some cases, yes, as the work was progressing.

Q. That was part of your duty?—A. Part of my duty, yes.

Q. Did you instruct the division engineers or the engineers resident on the ground?—A. Both division and resident engineers, yes.

Q. Taking the interpretation of January 14 and the instructions, do you consider that, so far as your knowledge goes, the classification of the massed material was in accordance with the interpretation?—A. Generally speaking, yes. As stated in my letter, there are some cases which need adjustment yet, and are being adjusted.

Q. I asked you a question, but you did not answer—you answered something else; I will ask it again: Do you consider that the classification which Mr. Lumsden says that he made, in his notes in June, 1909, was consistent with his interpretation of the 14th January, 1908?—A. No, it is not.

Q. In Mr. Lumsden's notes a number of those cuttings are referred to, particularly on page 82 I find a number of them, with the remark, 're-measure.' There are seven of them in District 'B,' at the top of the page, with that note; now, are those being re-measured among the rest?—A. Those are being re-measured, yes.

Q. Do you know if any of them were being re-measured before Mr. Lumsden made his examination?—A. No.

Q. Now, there are some remarks on that page——?—A. The cross-sections had not been all returned to the district office and checked at the time of Mr. Lumsden's——

Q. In June, 1909?—A. Yes.

Q. Will you tell us what the routine is about that, because although it has been referred to it has not been explained?—A. About return of the cross-sections?

Q. Yes; who prepares them in the first place?—A. The resident engineer prepares them, and the resident engineer returns them to the division engineer, who goes over them carefully and revises the quantities, if any mistakes have been made, together with the resident engineer, and who sees—who must see—that the classification returned is in accordance with the understanding arrived at at the time that the cuts were being taken out—with the notes. When these have been checked by the division engineer they are sent in to the district office in Quebec, where they are re-checked once more, and where it is seen—it must be seen too—that the plan followed in plotting the cross-sections and calculating the quantities is the same as laid down in the instructions. Then the cross-section quantities are returned to the head office in Ottawa, where they are re-checked, and if anything is found wrong with them they are sent back to the district office for correction.

Q. Now, this must take a considerable amount of time before the——?—A. No final estimate can be given until the cross-sections have been checked in the Ottawa office, in the head office; and no final cross-sections have been approved of from Ottawa yet.

Q. No final cross-sections?—A. No.

Q. And no final estimate?—A. No final estimate has been given, yet.

Q. Or can be given?—A. Until that is done.

Q. But the examination of those cross-sections and the transmitting them from one to another, will take several months yet, I suppose?—A. Oh, it has been going on for over a year. It has been going on for over eighteen months now.

Q. But the cross-sections are plotted from the beginning?—A. The cross-sections are plotted before the work is started.

Q. And then the information is filled in as the work goes on, is it?—A. Yes, as the work goes on, month by month.

Q. Then, so far as the engineer-in-chief is concerned, of course he may not see the work so as to check the accuracy of the cross-sections for many months after the work is done; how is it with the division engineer? Does he see what the resident engineer is doing within a short time after?—A. Oh, he goes over his division every week.

Q. Is he in a position to see whether the resident engineer is correctly putting

down the quantities upon the cross-sections?—A. Yes, he is held to be; he checks every month's estimate.

Q. So far as I can learn from the examination of those sheets of cross-sections that we have had before us, the measurement of the area goes on as the work proceeds?—A. Yes; of course you can't put the final slopes on until the cut is finished. You can put the surface line on first, but you can't put the slopes on until you ascertain, by taking more levels, what the actual slopes are.

Q. Nor can you put the quantities in the cutting?—A. Nor can you put the final quantities in the cutting.

Q. But that is or should be work that is being done from day to day by the engineer while the work is in progress?—A. Yes.

Q. And can be checked by that work?—A. Oh, yes.

Q. I am right in that, am I?—A. Yes.

Q. Then the resident engineer and the division engineer are both responsible for the work and the soundness of the judgment which they exercised, I suppose?—A. Yes.

Q. How often, during the time that this work was going on, did you see what the division engineers were doing, and how soon after their work commenced did you know how they were making their estimates and classifying the material?—A. Well, I was over the ground before the work was commenced at all, and I suppose I made from three to four trips during the year.

Q. Each year?—A. Each year, yes.

Q. You had also some work under you on the south side of the river? You went down to the boundary line?—A. Yes.

Q. So that your whole attention was not given to one part?—A. Not to any particular point. I had to go over my whole district as much as I possibly could.

Q. Then your knowledge of the work on the ground and of the classification is not so immediate and direct as that of the division engineers and the resident engineers?—A. Naturally, no.

Q. Did you have more than one assistant on the district?—A. One assistant at a time; one on the south shore and one on the north shore. One for the south side of the river and one exclusively on the north side.

Q. Mr. Huestis has been spoken of here as your assistant?—A. Yes.

Q. Was he your assistant from the beginning?—A. No.

Q. Who preceded him?—A. Mr. Gordon Grant was my first assistant on the north shore.

Q. Do you know the next?—A. Well, he was on before the construction started.

Q. I think he gave us the date when he ceased to be assistant?—A. I think it must have been June or July, 1907, when he left.

Q. And did Mr. Huestis succeed him?—A. No, Mr. Hervey succeeded him.

Mr. HUESTIS.—No, I succeeded Mr. Grant for two months.

By Mr. Chrysler:

Q. That would be August, 1907, would it?—A. Mr. Grant was there till May, 1907; then Mr. Huestis was there from May, 1907, till September, 1907; Mr. Hervey came from September, 1907, to February, 1909; then Mr. Huestis had been there since.

Q. Mr. Huestis since February, 1909?—A. Yes.

Q. Who was the division engineer on the division that has been referred to here in District 'B'?—A. There is more than one division; there are three divisions altogether; it spreads over three divisions.

Q. Who were the division engineers?—A. Mr. Darcy was division engineer on division No. 8; Mr. Bourgeois was division engineer of division No. 7; and Mr. Dibblee was division engineer of division No. 6.

Q. Were you examined as to the preparation of the estimate for the purpose of geting contracts—the estimated cost of the work?—A. Yes, the quantities.

Q. You have a statement here that I thought of using; is this a list of cuttings?—A. Yes.

Q. What does this statement show?—A. It shows the cuts mentioned by Mr. Lumsden in his statement to the Committee.

Q. Taken in the order of their occurrence on the work?—A. Yes.

Q. And showing the date of commencement and date of completion?—A. Yes.

Q. And that list comprises all that Mr. Lumsden has referred to?—A. Yes.

EXHIBIT No. 98.

Cuts mentioned by Hugh D. Lumsden.

Station.	Date of Commencement.	Date of Completion.
3001-15	October, 1906	April, 1907.
3033-43	" 1906	" 1907.
3050-56	November, 1906	June, 1907.
3091-94	October, 1906	October, 1906.
3126-44	July, 1906	July, 1907.
3210-14	" 1907	September, 1907.
3270-75	" 1907	October, 1907.
3516-21	June, 1906	July, 1907.
3616-23	September, 1906	December, 1906.
3851-58	November, 1906	June, 1907.
3945-55	October, 1906	May, 1907.
4063-71	August, 1906	July, 1907.
5239-46	March, 1908	August, 1908.
5324-28	April, 1907	June, 1907.
5818-26	September, 1906	November, 1907.
5842-58	" 1906	February, 1908.
6761-70	March, 1907	August, 1908.
6774-81	April, 1907	" 1907.
6782-88	" 1907	December, 1907.
6789-93	March, 1907	July, 1907.
6815-20	June, 1907	" 1908.
6824-30	September, 1907	" 1908.
6841-48	November, 1907	" 1908.
6920-24	September, 1908	(?) Oct., 1908, Borrow.
6902-12	October, 1907	July, 1908.
6915-17	" 1907	" 1908.
6947-59	" 1907	September, 1908.
6963-69	November, 1907	August, 1908.
7033-36	January, 1908	June, 1908.
7041-46	June, 1908	" 1908.
0752-62	May, 1908	November, 1908.

By Mr. Moss:

Q. Mr. Doucet, in regard to your conversation with Mr. Lumsden as to the percentage of boulders in assembled rock, where did that idea of 50 per cent originate? Was that your own idea?—A. Well, as I said this afternoon, Mr. Armstrong, the district engineer of the Grand Trunk Pacific Railway, and myself had discussed the question in order to arrive at some kind of understanding of what solid rock—what rock should be put in at in the mass.

Q. That was your idea of what would constitute such a mass as would require continuous blasting?—A. Yes.

Q. You did not intend, I suppose, to depart from the test imposed by the specifications—of the necessity of continuous blasting being the determining feature—but simply that it was your idea, speaking perhaps in a somewhat——A. Of trying to make this blue print of Mr. Lumsden's understandable.

APPENDIX No. 3

Q. It was never intended that there should be any measurement to determine whether there was 50 per cent boulders in it or not?—A. No.

Q. But simply that you thought that was a rough-and-ready way?—A. About as much rock as you could get in a mass.

Q. Piled closely together?—A. Yes.

By Mr. Chrysler:

Q. Excluding the voids?—A. Yes.

By Mr. Moss:

Q. Apart from your conversations with Mr. Lumsden, that was never adopted by him finally in any way?—A. No, nothing in writing at all.

Q. And no instructions given to any of the engineers in that regard?—A. By him; no. But I gave instructions to my engineers.

Q. And you are satisfied that so far as your district is concerned, those instructions were carried out?—A. Yes.

Q. Speaking generally, are you satisfied that Mr. Lumsden's instructions as interpreted by you to your engineers were carried out?—A. Yes, as a general rule. There may be a few cases where they have not, and where those matters are being adjusted now.

Q. But they are no more than the ordinary discrepancies which would occur on any work that is going on?—A. It would occur on any work.

Q. On any engineering work?—A. Yes.

Q. I suppose that is partly what you were for, you and your assistant—you are there partly to supervise and correct those errors or discrepancies which may occur from time to time?—A. Yes, and in those few cases mentioned they will be rectified.

Q. Throughout this work you have been in constant communication with the district engineer of the Grand Trunk?—A. Almost daily communication.

Q. And they have been thoroughly aware of the principle upon which your classification was made?—A. They have always accompanied me on the work. Every time I have been out I have had them along with me.

Q. And they have had access to all information that we have in our office. The offices were open to them.

Q. Full and free access?—A. Full and free access; those were our instructions.

Q. And have they ever made any objection to the principle upon which your classification was being made? There may have been complaints as to the results, but as to the principle?—A. No, none, not since the blue print—Mr. Lumsden's interpretation.

Q. There has been no objection to the principle upon which you were classifying?—A. No.

Q. And they have been fully aware of the principle upon which you were classifying?—A. Yes.

Q. Then any objections that have been taken by the Grand Trunk, have they furnished you with any detailed notes of those objections, or have they been confined to general objections that the classification was too high?—A. No, they have given us cases where in their opinion the classification was too high, or perhaps too low. We have talked the matter over, and we have gone on the ground and adjusted the different cases. Since that blue print came out; and they have orders now—their district engineers have orders—to settle all cases with the district engineers of the Transcontinental, outside of the few points that are under arbitration.

Q. Are you now proceeding with the settlement?—A. Yes, now proceeding.

Q. And are you meeting with difficulty in settling those?—A. Oh, no, there is no difficulty.

Q. Are you satisfied with the work of your engineering staff on your district, and with their competence and integrity?—A. Yes, quite, perfectly so.

Q. And you are quite satisfied to take full responsibility for the work on your district?—A. Yes.

Committee rose at 6 p.m.

MONDAY, April 18, 1910.

The Committee resumed at 8.30 p.m.

The examination of A. E. Doucet continued.

By Mr. Chrysler:

Q. There are some notes of Mr. Lumsden's on page 82 that I meant to ask you about. There are two or three places there, perhaps more—four places—in which there is a note of this kind, 'Cross-sections not O.K.' There are three of those places. Can you, from the information you have got here, tell me about that?—A. What are the stations, 3000?

Q. 3000 to 3015?—A. They are all under remeasurement; they are all being readjusted.

Q. In that case, they occur where there is a note to remeasure. Do you happen to know what was wrong with the cross-sections at either of those places?—A. I think the massed material was not divided from the ledge rock.

Q. If that is all that Mr. Lumsden had in mind, his criticism was to that extent just?—A. Yes.

Q. And you are having that remedied?—A. We are having that remedied.

By Mr. Clarke:

Q. What was that criticism?

Mr. CHRYSLER.—'Cross-sections not O.K., remeasuring it'; that occurs three times.

By Mr. Clarke:

Q. What does that mean?—A. That means that there was no division line shown between the ledge rock and the massed material on the cross-sections. There is no surface line showing the division between the two.

By Mr. Chrysler:

Q. The note is 'material, so many yards, L.D.,' which, as they have told us, means ledge rock.

Q. What stations are they? Are they the sheets you have produced here?—A. No, they are being remeasured now. It will make no difference as far as the quantities are concerned, because the massed material is the same price as the ledge rock.

By Mr. Clarke:

Q. Is it that the cross-sections were not filled in properly?—A. Yes.

Q. I thought Mr. Lumsden did not see these?—A. No, only he judged by the quantities what the ledge rock would have been, allowing for any portion lying on top of the ledge rock.

APPENDIX No. 3

By Mr. Chrysler:

Q. I infer from this he had seen the cross-section and thought it did not conform to the material on the ground?—A. He does not say that there. If Mr. Lumsden went into a cut and saw there was too much ledge rock and no assembled rock at all returned, he would naturally say the cross-sections were not O.K., though it will make no difference in the totals.

Q. This afternoon, in speaking of these sheets of cross-sections which you have put in, I understood you to say that you did not recollect personally the material in any of these cuttings? Did you yourself examine the material at these cuttings? —A. Several times. I do not remember the cuttings by looking at the cross-sections, but all along the St. Maurice I did so.

Q. Did you then when you did examine them consider the propriety of the estimates that were being returned on the classified material by the engineers?—A. I instructed the division engineers to lower it where I found the classification was too high.

Q. Can you say when you made your last examination of these cuttings, prior to Mr. Lumsden resigning, prior to June, 1909?—A. Prior to the arbitration?

Q. Yes?—A. Well, I made several examinations previous to that, but the last official examination I made was with Mr. Fotheringham, the district engineer of the Grand Trunk Pacific, and Mr. Gordon Grant and Mr. Huestis, the whole four of us together. I think that was in August the year previous.

Q. The year 1908?—A. Of the whole work, although I have been over that work several times since.

Q. Do you know if the instructions, whatever instructions you gave to your resident engineers were obeyed?—A. They were, the greater part of them, but there were three or four points that were not put quite clear to the resident engineer, and that is being attended to.

Q. And the date to which you refer as having in some cases directed that the classification should be lowered was in August, 1908?—A. 1908, yes, the 1st September, 1908.

Q. Did the trip extend over one day, or is that the date when it was finished?—A. That is after I got back to Quebec, that I wrote to Mr. Bourgeois.

Q. On your return?—A. On my return.

Q. So that your trip had been completed by the 1st September, is that right?—A. It was completed on the 1st September, yes.

By Mr. Clarke:

Q. I don't know whether you said anything about the places where he said it was all muskeg, where solid rock is given in the classification of the resident engineer?—A. That does not happen on District 'B,' that is on District 'A,' I think it was.

Q. Mr. Grant spoke of it as 'C.'

Mr. Moss.—It is in District 'F.'

Mr. Chrysler.—District 'C' he spoke of the grade being raised.

By Mr. Clarke:

Q. There is no muskeg down there, is there?—A. Very little.

By Mr. Moss:

Q. I think I was asking you at adjournment whether you were satisfied with the work of your working staff, and whether you were prepared to take full responsibility for the work and for the classification in that district, and you said you were?—A. Yes.

Q. And you are satisfied that so far as you know there has been no impropriety on the part of any engineers?—A. No, but I said there were some cases which still needed readjustment, that are being attended to.

Q. But those are the ordinary cases, which would arise in any engineering work and come within the ordinary scope of what we might call the day's work?—A. Yes.

Q. Apart from that there is nothing you found to criticise or complain of?—A. No.

Q. And I suppose if there had been you would have reported it at once?—A. Yes.

Q. Then do I understand that you found the cases of under-classification as well as cases of over-classification?—A. Yes.

Q. Several of them, did you?—A. Yes, several cases.

Q. Where you found that you have ordered a re-classification, just as you have where there is over-classification?—A. Yes.

Q. And that re-classification, in cases where you think there has been under-classification, is proceeding just in the same way as the others?—A. In the same way.

Q. And will be conducted in the manner you have indicated?—A. Yes.

Q. I suppose you will agree with what has been said frequently, that in order to classify, apart from the questions of the principle of classification—we won't apply the principle of classification that may be adopted—the man on the ground who sees the work from day to day or at intervals of a few days, whether he be resident engineer or district engineer, is the best man to judge?—A. Yes.

Q. Would you as district engineer undertake to reclassify in cases——A. Work that I had seen myself under construction.

Q. Work that you had not seen yourself you would not undertake to re-classify?—A. Unless I had full information from the engineers who were there during the time.

Q. Information from them as to how they did it?—A. Yes, and digging test-pits.

Q. But if in their classification, or digging test-pits you found they had been classifying on a wrong principle you would re-classify it?—A. If they had been classifying on a wrong principle, I would hesitate to change the classification, unless I could get them to admit they were wrong.

Q. On their statements?—A. Yes.

Q. If they admitted that you would re-classify it, but apart from that you would not undertake to re-classify it?—A. I would try and talk with them and reason with them to come to an understanding of what they had done. If they still stuck to it that their classification was right and stated valid reasons for their doing so, I would not change their classification, knowing the engineers as I do.

Q. You would not think for a moment, I presume, of going into a cut and re-classifying it at sight, or in a few minutes walk?—A. Most decidedly not.

Q. Is any engineer justified in undertaking to do it?—A. No.

Q. You accompanied the arbitrators on their trip over your portion of your district?—A. Yes.

Q. In June last?—A. Yes.

Q. And you gave us an account of that trip; you gave the Commissioners an account of that trip on the 23rd June, which is marked Exhibit 74?—A. Yes.

Q. Do you remember the contents of that letter?—A. Yes.

Q. I don't want to take up the time of the Committee by reading that over again. It has been already read. Does that correctly set forth an account of the trip as you experienced it at that time?—A. That is perfectly right.

Q. Is there anything that you would desire to add to that?—A. No, nothing that I desire to add or to take away.

Q. There were no questions asked of any of the engineers on the ground as to their classification?—A. There may have been a few but none that I heard of.

Mr. DOUCET.

Q. None that you heard of?—A. No.

Q. And no one examined but Mr. Bourgeois. I understand Mr. Bourgeois has now left the service of the Commission?—A. Yes.

Q. Mr. Bourgeois is a Frenchman?—A. Yes.

Q. Are you aware whether he is well up in English?—A. Well, he always understood my English.

Q. He always understood yours?—A. He understood mine, I don't know whether he understood everybody's?

Q. Do you think he understood enough English to undergo an examination?

By Mr. Macdonald:

Q. You could talk French to him?—A. Yes, I did speak French to him. I spoke French to Mr. Bourgeois.

By Mr. Moss:

Q. You would not call him a man who was conversant with English?—A. No.

Q. Not sufficiently so to undergo a technical cross-examination?—A. I don't think he would detect the niceties of the language at all.

Q. Mr. Lumsden in his statement, Exhibit No. 2, gives a number of cuttings which he criticised under different headings. Mr. Chrysler has examined you as to some of those. The first one is an illustration of places where material returned as solid rock should be loose rock or common excavation. Would what you have said regarding the cutting apply, speaking generally, to the other cuttings.—A. All over that country, yes.

Q. There would be nothing gained by taking that over item by item?—A. No.

Q. Would the same thing apply to points, where material returned as loose rock should have been returned as common excavation?—A. Yes.

Q. There are places where cross-sections show that ledge rock returns were erroneous?—A. That is a question of re-measurement.

Q. You told us there were places where re-measurement had been ordered?—A. Yes.

Q. Those cases would be only occasional cases on the district?—A. Yes.

Q. That would be simply a mistake in making out a cross-section?—A. In not dividing the massed material from the ledged rock.

Q. On the paper?—A. Yes.

Q. It would not indicate anything wrong with the measurement?—A. No, the measurement would be the same; very nearly the same; they may not come out exactly.

Q. The illustration you gave us of re-measurement was taken from one of that class?—A. Yes.

Q. Where you have actually taken it you have found it came out very close to it?—A. It came out reasonably close.

Q. Then we have illustrations on page 83 of places where engineers did not measure rock either by cross-section measurement or by individual pieces. There are only some three cuttings given in District 'B' at page 83. What would you say as to that?—A. That would mean that Mr. Lumsden was of the opinion that the engineer should have measured each boulder separately and that would come under the class of massed material. That was where we contended it was measured up in a mass.

Q. Is it impossible?—A. It is impossible.

Q. It would mean, I presume, disintegrating the mass in order to get at the boulders?—A. Yes, I have stated those reasons before.

By Mr. Chrysler:

Q. Is the question of overbreak of much importance on District 'B'?—A. Almost of no importance, Mr. Chrysler.

Q. I think I did not ask that question before?—A. Some one asked me how it was that the quantities originally estimated were so much less than the final quantities. The original quantities were calculated from the centre line—these white lines, that is the centre line, the side hill slope is represented by that red line. We calculated our quantities from here (indicating on blue print). That is all along the St. Maurice.

Has that been plotted all the way through?—A. Yes. Wherever these red lines are not shown it is level cross-section, but take a piece like this (indicating on blue print), we would calculate our quantities on these red lines here (indicating on blue print). Here is 150 feet. The upper slope is 150 high.

Q. You have found a part of the profile of district 'B' which illustrates the evidence you gave on Friday about the difference between the quantities calculated from the height of the surface of the ground at the centre line of the railway, and the height inside the slope on hillside work?—A. Yes. (Exhibit No. 99.)

Q. Where is that taken from, the exhibit you have in your hand?—A. That is a portion of the Transcontinental Railway on the upper St. Maurice, 11 miles above La Tuque.

Q. What line on the profile shows the centre line of the railway?—A. The white line.

Q. And what do the red lines above it show?—A. The red dotted line shows the level of the upper slope on side-hill ground. That is the side away from the water.

Q. That is the side away from the water?—A. Yes.

Q. In that one place is there any considerable difference in the quantity of material to be moved?—A. I suppose there would be five times the quantity to be moved in this piece here.

Q. In the cuts where the red line is shown?—A. Yes.

By Mr. Smith:

Q. Mr. Doucet, I don't think you told us what your experience had been as a railway engineer?—A. I started railroading in 1880 for the Canadian Pacific Railway, up to 1887 and up to 1898 I was with the contractors, R. G. Reed & Co., as a contractors' engineer.

Q. That is Sir R. G. Reid?—A. Yes, and up to 1901 I was chief engineer of one of the branch lines, the Arrowhead and Kootenay, for the Canadian Pacific Railway From 1901 to 1908 I was chief engineer of the Quebec and Lake St. John Railway and part of that time with the Great Northern Railway of Canada, and from 1904 to date I was district engineer of the Transcontinental Railway.

Q. And have you been all the time actively engaged in railway construction?—A. Yes.

Q. For a time you remained as chief consulting engineer for the Quebec and Lake St. John Railway?—A. Yes.

Q. After you had begun work for the Transcontinental?—A. From 1904 to 1908.

Q. Then your experience must have been very extensive in that period?—A. From the Atlantic to the Pacific coast.

Q. What are you able to say as to the general character of the country through which the Transcontinental has been built in Disrict 'B'? How does it compare with other portions of the country in which you have had occasion to be engaged?—A. The ledge rock is very much the same as ledge rock elsewhere, but it is in the quantity of boulders or cemented material that the work in District 'B' differs from any work that I have done before.

Q. That is to say, the quantity of massed material is greatly in excess——?—A. The formation is entirely different.

Q. Do you agree with the opinion experienced by other engineers as to the cause of the difficulty of handling that material?—A. Yes. I had had experience in that

same material on the Quebec and Lake St. John Railway, and building a line 40 miles long into La Tuque on exactly the same ground.

Q. And the material is of very much the same formation?—A. Very much the same, only our grades were heavier on the Lake St. John, and of course the steeper the grade the cheaper the line you can get, the cheaper construction you can get. For instance, I think we were asked what the difference in the cost of the Transcontinental would be in lines with a 1 per cent grade and a line of $\frac{4}{10}$ grade. Well, here is a case in point, the cost of the Quebec and Lake St. John Railway, using a 1 to 1·25 per cent grade for 40 miles, was $35,000 to the mile, and on exactly the same ground the Transcontinental, almost paralleling that line, but using a $\frac{4}{10}$ grade, some of that line will cost $105,000 to $110,000 a mile, or over three times more than a line with 1 per cent grade.

Q. Could you make that a little clearer to us and tell us why there should be such a difference? What really does that difference consist in, in the case of 1 to 1¼ per cent grade, and a $\frac{4}{10}$ of 1 per cent grade? It is not in the actual material moved?—A. Oh, no, it is in the quantities. With the steeper grade you can take a very much lighter cut and very much lighter fills.

Q. You might just explain about that Quebec and Lake St. John Railway upon which you were the Chief Engineer, about the difference in cost between that railway and the Transcontinental?—A. The increased cost is due to having to take very much heavier cuts and fills with light grades than one has to do when using a steeper grade.

Q. When was it resolved to make this a $\frac{4}{10}$ of 1 per cent grade instead of 1 per cent?—A. We were told before starting the surveys that we had to use a $\frac{4}{10}$ grade.

Q. That was the original idea?—A. Yes.

Q. To build the road with reference to permanence and cheap operation?—A. Yes, but we didn't know whether we would be allowed to use velocity grades, which is the term for a short steep grade where an engine going down hill gets momentum enough to go up a steep grade on the other side.

By Mr. Macdonald:

Q. Explain that plainly so as to show the meaning of it?—A. (Witness draws sketch.) This illustrates what a velocity grade is. We were told that we had to use a $\frac{4}{10}$ per cent grade.

Q. Did you assume they would permit the use of what is known as the velocity grade?—A. Yes.

Q. Which would mean in some cases the use of a 1 per cent grade for that purpose?—A. Yes.

By Mr. Clarke:

Q. Was that not allowed in construction?—A. No; subsequently we had orders from the Chief Engineer that momentum grades would not be allowed.

By Mr. Smith:

Q. That you would not be allowed to exceed the $\frac{4}{10}$ths?—A. Not to exceed $\frac{4}{10}$ths.

Q. Can you say in general terms what is the difference in cost as between 1 per cent and $\frac{4}{10}$ths of 1 per cent grade?—A. In this country, in District 'B,' I should say it would be three or four times as much for a $\frac{4}{10}$ths grade.

Q. I understood you to refer to District 'B' as being an exceptional country, and therefore probably the difference was greater than ordinarily in that district?—A. Yes.

Q. But what would be the difference in any ordinary case?

Mr. MACDONALD.—Had you not better deal with District 'B' first?—A. It would be three or four times greater in this country such as we met with in District 'B.'

By Mr. Smith:

Q. Is it a desideratum with railway engineers to get grades as low as possible?—A. Certainly.

Q. Now, you changed the original or preliminary lines several times?—A. Yes.

Q. What was the object of those changes, or what was the principal object?—A. It was to get the best line, the best alignment.

Q. Would that be for the purposes of alignment or would the grades have anything to do with it?—A. If we ran a preliminary line and found we couldn't get a 6ths grade on it we would necessarily change it to get the required grade.

Q. You were asked by Mr. Chrysler a number of questions relating to the increased cost of the work over the estimates that were made up for the purpose of letting contracts; without repeating, could you just summarize now what were the different elements that enter into this increased cost?—A. First of all we are talking about contracts 9 and 10 in that first 150 miles west of the Quebec Bridge, on which estimates were originally asked for so that tenders might be called. In the original specifications there was no item for train haul material, so that the material to be used for the embankments and which would have to be hauled by train, was estimated for in the original estimates as 'borrow,' at earth or common excavation prices. Well, after construction began, we found that owing to the item having been left out of the specifications an order in council had to be passed providing a price for this train haul material, and the price agreed upon was 55 cents per yard, the price of common excavation was 21 cents per yard.

Q. What difference did that make?—A. There were 3,563,000 cubic yards of train haul material, and the difference between the common excavation price, 21 cents, and the train haul price, 55 cents, multiplied by the number of yards of train material moved, made the difference $1,211,000.

Q. On that one item?—A. Yes. It would have been the same in the end of course, but it changed our original estimates in that way; it did not cost the country any more, but the estimates were increased by that amount.

Q. That is what I mean. With respect to that item of train haul could you say anything with regard to the other portions of District 'B'? That is all on the first 150 miles?—A. Yes.

Q. Would it approximately be the same on the other portions of the district?—A No, because the specifications were revised for the other contracts, and they put in an item for train haul material, so that it did not affect the quantities in the other portions of the district in the same way as it did on the first 150 miles.

By Mr. Moss:

Q. Hadn't they made a supplementary agreement, had they gone on the original contract——A. You couldn't have got the work done.

Q. You could not have got the work done?—A. No, not on the original contract.

Q. That is to say you would have had to pay the contractors common excavation plus the train haul.—A. Which would amount to very, very much more.

Q. It would have meant a fabulous sum?—A. Yes.

By Mr. Macdonald:

Q. I understand that this item of train haul of which you speak was not included in the estimate originally made of $114,000,000.—A. That came into that, yes, but it did not come into the estimate we made on which the contracts were let. Well then, there was an increase in the cost due to the adoption of the loop line at La Tuque.

APPENDIX No. 3

By Mr. Smith:

Q. Was that for the purpose of getting a grade?—A. Yes, for the purpose of getting a grade, we found that owing to some error in the levels in the preliminary line, the line we thought we could get had to be abandoned because it took a 6ths instead of a 4/10ths grade to get down to La Tuque, and we had to adopt another line on which the work is very much heavier.

Q. I wish to ask you a few questions with regard to that, but if you will go on and summarize the various reasons for an increase of the cost I will come back to that again?—A. Well, our having to take that line, to adopt the loop line, owing to the decision of the Grand Trunk Pacific and the government that they would not accept any other grade than a 4/10ths, added some $550,000 to our estimate.

Q. That is all on the original contracts?—A. Yes. Now, in our original estimates we did not estimate for divisional yards, on the 150 miles there were two divisional yards, one at Cap Rouge, near the Quebec Bridge, and another one at La Tuque. These two divisional yards added $513,000 to the original estimate.

By Mr. Macdonald:

Q. What would be necessary to do in regard to divisional yards, would it mean more excavation?—A. Yes, the divisional yards are at least a mile long, and they will be anywhere from 800 to 1,200 feet wide.

Q. In order to provide for sidings?—A. In order to provide for sidings, shops and structures of that kind.

By Mr. Smith:

Q. And that was not estimated at all?—A. No, we did not know where they would be at all, so we didn't estimate for them.

Q. Now, continue those different items.—A. There was all that work along the St. Maurice river.

Q. That side hill work?—A. Side hill work, where we found the embankments going into the water, they had to be protected with what we call riprap.

Q. I think you have gone into that fully this afternoon?—A. No.

Q. Didn't you?—A. No.

Q. Then you might give us what information you have on that, Mr. Doucet?—A. Well, we found the lower edge of the slope went into the water, the St. Maurice river rises very much more than we thought it would in the first place, the customary rise of 27 feet, so that at high water the toe of the embankments unless properly protected with riprap, would be carried away.

Q. And that I understand was a very large amount?—A. Yes, it amounted to 144,000 yards of riprap for the protection of the embankments.

By Mr. Macdonald:

Q. Costing what?—A. $252,000, that was not provided for in the original estimate. We had no means of finding out the height of the water, but it had to be done, unless we wished our embankments to be carried away we had to protect them with riprap.

By Mr. Clarke:

Q. There was nothing added in these estimates for unforeseen matters?—A. No, and this riprap was unforeseen.

By Mr. Smith:

Q. Then——?—A. Then that very heavy side hill work that we had at the Milieu river.

Q. You put in some blue prints,, didn't you, showing the actual cross-sections of this work?—A. Yes, the cross-sections.

Q. You have already filed those?—A. Yes.

Q. Have you anything to add to that?—A. No, except to mention that at the Milieu river this extra steep side hill work cost $427,000 more than we thought it would.

Q. Yes?—A. And on the Upper St. Maurice river it cost $238,000.

Q. Now before you pass from that, who ordered the change in the location of the line?—A. All the change had to be sent up here to Ottawa, they had to be approved by headquarters here before being adopted.

Q. Approved by——?—A. The Chief Engineer.

Q. By the Chief Engineer, that was Mr. Lumsden?—A. Yes.

Q. Now can you mention any other items?—A. Yes, the next and the only remaining large item is this assembled rock, what we had classified in our original estimate probably as loose rock and common excavation. Altogether on that 150 miles there would be 1,464,000 yards of massed material. Now that massed material, that rock, would cost $1.50 to take out. We probably estimated part of it at loose rock price, 50 cents a yard, and a part of it at earth price, 21 cents, one-half of it at each, that would make a difference of $1,676,000 on the 150 miles.

Q. Well now I understand there was no deviation ever made in the line except with the authority of Mr. Lumsden, the Chief Engineer?—A. We could not do it, we were not allowed to do it.

Q. Do you know whether the engineers of the Grand Trunk Pacific were consulted with respect to these changes in location?—A. It was submitted to them, the plans were all submitted to the Grand Trunk Pacific.

Q. And did they ever protest or object to the change of location?—A. No, they have often said that the location was a first class one.

Q. Now, to come back to the question of grades and changes of lines——

By Mr. Macdonald:

Q. Might I suggest if Mr. Doucet has a comprehensive statement of the difference in the cost from the original estimate that he file it for reference.

Mr. SMITH.—I would be delighted to put in any statement that Mr. Doucet has, I was just wondering whether he desired to put it in.

Mr. MACDONALD.—He might explain to the reporter so that it will be recorded on the notes, that some of those figures are necessarily approximate. I think the statement might be incorporated in the evidence with advantage, and it will make it clearer?—A. With the explanation that has already been made I think it will be sufficient.

(Document filed as Exhibit No. 100.)

EXHIBIT No. 100.

APPROXIMATE COMPARATIVE STATEMENT OF COST OF CONSTRUCTION OF TRANSCONTINENTAL RAILWAY, MILES 0 TO 150, QUEBEC BRIDGE, WESTERLY, AS PER ENGINEERS' ORIGINAL ESTIMATE, JANUARY, 1906, ON WHICH TENDERS WERE BASED, AND FINAL ESTIMATES FROM DIVISION ENGINEERS' PERCENTAGE REPORTS, APRIL, 1909.

Amount of original estimates on which tenders were based	$ 5,297,857	
Cost compiled from division engineers' percentage reports	11,219,829	
Excess of cost of division engineers' percentage reports over original estimate		$ 5,921,972

GRADING.

Original estimate of cost on which tenders were based	$ 3,521,362	
Actual cost as compiled from division engineers' percentage reports	8,639,799	
Excess cost of grading of division engineers' percentage reports over original estimates		$ 4,918,437

APPENDIX No. 3

Excess made up principally as follows.

No train hauled material was provided for in original estimates, and this material, amounting to 3,563,000 c. yds. was included under the heading of "common excavation"—		
3,563,000 c. yds. of train hauled material at 55c	$ 1,959,650	
Less—3,563,000 c. yds. of common excavation at 21c	748,230	
		$ 1,211,420
Increase in cost of construction due to adoption of Loup Line at La Tuque.		
Estimated cost of original preliminary line grading on 6/10 grade	$ 698,192	
Cost of loop line adopted to get a 4/10 grade, necessitating a complete change of ground	1,248,450	
Excess cost		550,258
Cost of grading divisional yard at La Tuque not provided for in original estimate—500,000 c. yds. train hauled material at 55c		275,000
Cost of grading divisional yard at Cap Rouge not provided for in original estimate		238,741
Extra cost of lowering water at La Tuque Falls, St. Maurice River, not contemplated in original estimates—30,000 c. yds. of rock at $1.50		45,000
Extra cost of rip-rap which had to be used to protect the embankments at Lake Masketsy and along the St. Maurice River. This rip-rap was not taken into account in original estimate—144,344 c. yds. at $1.75		252,602
Excess cost of grading at the Milieu River due to steep side hill work.		
No. of c. yds. of rock originally estimated on projected location	$ 233,672	
No. of c. yds. of rock taken out according to final location	518,460	
Excess at $1.50	$ 284,788	427,182
Excess cost of grading from the Bostonnais to the Vermilion Rivers—		
Original estimates were calculated from projected location, but later line was entirely changed necessitating steep side hill work owing to high water in the St. Maurice River		238,237
Material originally estimated as loose rock and common excavation in quantities on which tenders were based, but which later, according to the classification adopted in the general specifications had to be returned as rock in masses—		
Quantities of "rock in masses"—1,464,036 c. yds. at $1.50	$ 2,196,054	
Less—732,018 c. yds. estimated for originally as loose rock at 50c	$ 366,009	
Less—732,018 c. yds. estimated for originally as common excavation at 21c	153,723	
	519,732	
		1,676,322
		$ 4,914,764

SUMMARY.

Increase in cost of grading due to changes and additions not provided for in January, 1906	$ 2,573,023	
Increase in cost of grading due to short estimates in various quantities	2,341,741	
		$ 4,914,764

BRIDGES, TRESTLES AND CULVERTS.

Cost of above as originally estimated in January, 1906	$ 1,189,867	
Cost of above as compiled from division engineers' percentage reports, April, 1909	2,160,264	
Excess of final cost over cost originally estimated		$ 970,397
Excess cost made up principally as follows.		
Cost of ice breakers at St. Maurice River not provided for in original estimates		$ 75,000
Extra cost of raising elevation of bridge at St. Maurice, Croche and Au Lait Rivers due to extreme high water in St. Maurice River not provided for in original estimates		70 200
Extra cost of cribs along St. Maurice River to protect embankments from high water		15,000
Extra cost of raising elevation of Batiscan bridge 10 feet due to nature of soil in adjoining cuts not provided for in original estimates		10,400
Extra cost of changing design of Bridge Creek Ludger Noel from a viaduct to a 40 ft. arch, due to dangerous nature of foundations, this not provided for in original estimates		104,390
Extra cost of using 1-2-4 concrete mixture in piers under water at the Vermilion River bridge instead of 1-3-6, as originally intended, and cost of extra depth of foundations		29,300
Extra cost of foundations of the St. Maurice and Vermilion River bridge foundations		17,316

Extra cost of change of structure at Creek a Shea due to elimination of curvature		$ 60,290
Extra cost of piling not provided for in original estimate due to decision of Chief Engineer		21,053
Short estimates in quantities of piling hand laid rip-rap, Random rip-rap excavation in foundations, excavation within coffer dams, sheet piling, stone drains, paving, cribs, cedar in culverts, dry and 3rd class masonry		572,395
Excess cost		$ 975,344

SUMMARY.

Increase in bridges and culverts due to changes and additions not provided for in original estimates	$ 402,949	
Increase in bridges and culverts due to short estimates in various quantities	572,395	
		$ 975,344

TOTAL SUMMARY.

Excess cost of division engineers' reports, April, 1909, over original estimates		$ 5,921,972
Excess cost chargeable to grading	$ 4,914,764	
Excess cost chargeable to bridges and culverts	975,344	
		5,890,108
Excess cost chargeable to other items on specifications		$ 31,864

A. E. DOUCET,
District Engineer.

QUEBEC, February 10, 1910.

By Mr. Macdonald:

Q. That statement simply deals with contracts 9 and 10?—A. Yes.

By Mr. Smith:

Q. Are you able to speak of other divisions in your district, 'B'?—A. There is no question like this on the other divisions.

Q. The variations would not be as great?—A. No.

Q. Well, now, to come back to this question of gradient, I suppose you keep familiar with all that is going on in the railway world, in railway building?—A. Yes.

Q. I have been told that a considerable portion of the C. P. R. has been changed from its original location?—A. Yes.

Q. For the purpose of getting better grades, &c.?—A. Yes.

Q. Do you know that to be a fact?—A. Yes.

Q. How would that in a general way, how would that increase the cost of the road?—A. They haven't done spending money yet, and they are in doubt whether they will ever get a 1% grade across the continent, no matter how much they spend.

Q. Well, now, if the hon. members of the committee will forgive me referring to it, I have in my hand an extract from the Toronto *Mail and Empire* of the day before yesterday, Saturday, the 16th of April, in which an article headed, 'New Line secured for T. and N. O. Road,' that will be the Temiskaming and Northern Ontario Road, I suppose?—A. Yes.

Q. That is a new railway just in process of construction, isn't it?—A. Yes.

Q. You know where that starts from?—A. Yes.

Q. From where?—A. Well, they are going to start from North Bay and they go up to Cochrane, I think.

Q. Why do you say it is going to start from North Bay?—A. Well, it does not start from North Bay right now.

Q. Here is what this article says, if I may be allowed to read it.

Mr. MACDONALD.—You might read enough to show the full significance of it.

Mr. SMITH (Reads):

> Surveying parties have been out for several years seeking a better route out of North Bay, and it is believed that the Commission will be prepared shortly to recommend the re-construction of the first 34 miles along a route that will cut

in half the heavy grade that now so seriously interferes with the economical operation of the road——

A. That is what I meant by saying it did not start from North Bay now.

Q. This article evidently suggests a change in the route.

Mr. MACDONALD.—Let us get the whole article in, that is as far as you are going to refer to it.

Mr. SMITH (Reads):

—as well as eliminate to an almost equal degree the sharp curves that prove so great a strain on the rolling stock and roadbed. Much criticism was passed on the original location of the line, but it was met with the expert opinion of eminent engineers, who stated that the character of the country presented too many difficulties to permit of an alternative route without an enormous expenditure of money. That this decision was not well founded has been the opinion of the present commission for several years, and it was decided to put surveying parties in the field to ascertain if a more economical route could not be secured.

Then there is the side heading: 'First Line Projected East':—

The first party started the projection of a line easterly from North Bay and considerable time and money was spent in the location of a new route in this direction. The surveys showed that a line could be located with the desired grade, but the enormous expenditure such a line entailed rendered the undertaking an impossible one from a commercial point of view. The idea of a route to the east was thereupon abandoned, and the surveyors were sent out in the opposite direction, where they still are working. This work entails a considerable expense to the Commission, as the engineers are breaking through an entirely new country, and have to carry all their supplies. Their wage and supply account is estimated to run close to $1,500 per month.

Then there is: 'Feasible Line is Located.' Another heading—(Reads):—

It is now understood that this preliminary survey has reached a point where a successful issue can be reported, and that the report will show good grounds for replacing the present lines from a financial point of view.

The proposal, although at present not in definite shape, is believed to provide for the projection of a new roadbed in a westerly direction from North Bay for a distance of about five miles, then curving to the north and running easterly until the present line is touched again at a distance of 34 miles from North Bay. This improvement, it is estimated, will entail an expenditure of about $1,250,000, but this sum has not been provided this year, as the work cannot be undertaken for some time. The engineers report, however, that the maximum grade on the line as proposed, will not exceed ·7, in place of the present grade of 1·4 per cent. The saving that such a change will effect in the operation of trains is shown by the fact that it will almost double the hauling capacity of the engines. The engineers also claim that the curvature can be reduced from six degrees, as at present, to four degrees, and perhaps three. This will also mean a large reduction in expense by the wear and tear on rolling stock, car wheels and rails. When it is considered that there was expended last year $35,000 for new rails on the section of track to be changed, an idea may be obtained of what will be gained by reducing the gradients and curves. While the alteration of the route will not be put into effect this year, considerable work will be done in the improvement of the line, as is shown by the fact that $750,000 have been placed in the estimates for betterments.

Q. That article appears to deal with conditions such as you have been describing in District 'B,' doesn't it?—A. Yes.

Q. That means that in effect the first 34 miles of that road as constructed is going to be reconstructed a distance of about five miles?—A. Yes; the road is not finished yet.

Q. But it is running?—A. Yes; but it is not finished since they have got to reconstruct it now. It is not finished. The rails are laid on the heavy grade.

Q. That is the line running up to Cobalt?—A. Yes. The rest of the line, they have got a very good grade on it.

Q. Does this indicate the general tendency of engineers?—A. To lower grades wherever they possibly can?—A. Yes.

Q. The grade that is spoken of as the actual grade is 1·4?—A. Yes, so they say.

Q. Is that a high or a low grade?—A. That is a high grade.

Q. And it is proposed to cut that in two, as they say, and reduce it to a grade of ·7?—A. Yes.

Q. Could you say what would be the difference in the cost of building the line?—Perhaps you are not familiar with that country?—A. I am not familiar enough with the country to say.

Q. Would it be very great, in any event, through any country at all, to build a road at ·7 grade instead of 1·4?—A. Yes, certainly, it must make a very big difference.

Q. But even the different grade does not seem to be getting anywhere down towards the standard that you have been building on?—A. No, not within three-tenths.

Q. What would be the difference now, in the country that you have been dealing with, between even ·7 and four-tenths?—A. Well, it would be double as much.

Q. You could practically build a road——?—A. Two miles for one.

Q. The ·7 grade at about half the cost of four-tenths?—A. Yes.

By Mr. Moss:

Q. Are you familiar enough with that country to say if that country is as difficult as your country?—A. No, I don't know it well enough. You might ask Mr. Poulin that question; he knows that country.

Mr. SMITH.—I will file this extract from the *Mail and Empire* of Saturday, 16th instant as

EXHIBIT No. 101.

New Line secured for T. and N. O. Road—First Thirty-four Miles of Route to be changed—Grade Reduced One-half—Costly Curves will also be Largely Reduced—Cost is estimated at about $1,250,000.

The position of the T. and N. O. railway as the most important factor in the development of northern Ontario and as an important link in the transcontinental system of the Grand Trunk railway will necessitate in the near future, important improvements and betterments in its line. Surveying parties have been out for several years seeking a better route out of North Bay, and it is believed that the commission will be prepared shortly to recommend the reconstruction of the first thirty-four miles along a route that will cut in half the heavy grade that now so seriously interferes with the economical operation of the road, as well as eliminate to an almost equal degree the sharp curves that prove so great a strain on the rolling stock and roadbed. Much criticism was passed on the original location of the line, but it was met with the expert opinion of eminent engineers, who stated that the character of the country presented too many difficulties to permit of any alternative route without an enormous expenditure of money. That this decision was not well founded has been the opinion of the present commission for several years, and it was decided to put surveying parties in the field to ascertain if a more economical route could not be secured.

First Line Projected East.

The first party started the projection of a line easterly from North Bay and considerable time and money was spent in the location of a new route in this

direction. The surveys showed that a line could be located with the desired grade, but the enormous expenditure such a line entailed rendered the undertaking an impossible one from a commercial point of view. The idea of a route to the east was thereupon abandoned, and the surveyors were sent out in the opposite direction, where they are still working. This work entails a considerable expense on the commission, as the engineers are breaking through an entirely new country, and have to carry all their supplies. Their wage and supply account is estimated to run close to $1,500 per month.

Feasible Line is Located.

It is now understood that this preliminary survey has reached a point where a successful issue can be reported, and that the report will show good grounds for replacing the present lines from a financial point of view.

The proposal, although at present not in definite shape, is believed to provide for the projection of a new roadbed in a westerly direction from North Bay for a distance of about five miles, then curving to the north and running easterly until the present line is touched again at a distance of 34 miles from North Bay. This improvement, it is estimated, will entail an expenditure of about $1,250,000, but this sum has not been provided this year, as the work cannot be undertaken for some time. The engineers' report, however, that the maximum grade, on the line as proposed, will not exceed ·7, in the place of the present grade of 1·4 per cent. The saving that such a change will effect in the operation of trains is shown by the fact that it will almost double the hauling capacity of the engines. The engineers also claim that the curvature can be reduced from six degrees, as at present, to four degrees, and perhaps three. This will also mean a large reduction in expense by the wear and tear on rolling stock, car wheels and rails. When it is considered that there was expended last year $35,000 for new rails on the section of track to be changed, an idea may be obtained of what will be gained by reducing the gradients and curves. While the alteration of the route will not be put into effect this year, considerable work will be done in the improvement of the line, as is shown by the fact that $750,000 have been placed in the estimates for betterments.

Grand Trunk's Object Lesson.

The decision of the Grand Trunk to utilize the T. and N. O. as its direct through line to Winnipeg is said to have been reached through the reports of its trainmen who handled three trains sent through to the G.T.P. over the route. The G. T. R. requested that its own employees be allowed to operate these trains over the T. and N. O., the local road furnishing only a pilot instead of hauling the trains with its own engines. The Grand Trunk employees were so highly pleased with the condition of the roadbed that the higher authorities at once determined that the T. and N. O. would be good enough for their through line, and having already secured the lease of the North Bay terminals, negotiations for the acquisition of running rights will promptly follow.

By Mr. Macdonald:

Q. What you have done, Mr. Doucet, in the construction of the Grand Trunk Pacific, is what the Ontario Government are only beginning to do now after the line has been in operation three or four years——?—A. After four years' operation, I think.

By Mr. Moss:

Q. That first 34 miles, then, is thrown away altogether, is it? Is it abandoned?—A. Yes, that will be thrown away.

Q. Absolutely worthless?—A. Yes.

By Mr. Macdonald:

Q. It would have been very much better in the public interest if they had gone on, or for any person building a railway in the present day, to go on and make the big expenditure first?—A. Yes, certainly. If you allow it to go too long, towns spring up along the way and you cannot abandon an old line for a new one, because you are bound to serve the people for whose benefit the line was built at the time. You cannot abandon the towns. The result is that very often they still go on operating a line with heavy grades for that very purpose—because towns have sprung up along the way.

Q. Vested interests have arisen?—A. Yes.

By Mr. Smith:

Q. Now, as to those various items that you have given us, showing the increase in the cost, it has occurred to me to ask you, could those not have been foreseen?—A. The train haul is the only one that could have been foreseen.

Q. You have spoken of the assembled rock found in such large quantities in that district as being one important item in the increase in the cost; you don't—or do you, intend by that answer to refer to the classification or to the fact that that material and that class of material was found there?—A. It was found to exist, and we could not see any trace of it by looking at the surface.

Q. Had you been over that ground yourself?—A. Yes, I had.

Q. Now, you were there as district engineer under Mr. Lumsden; to what extent did you go over the line yourself to familiarize yourself with the conditions existing?—A. Well, I had no stated time to go over the district. Of course, I had 400 miles to go over, so that possibly three or four times a year was about all I could do, although in places I went very much more often than to others; for instance, at La Tuque; I suppose I would go there seven or eight times during the year.

Q. La Tuque was one?—A. Was the heaviest construction that we had.

Q. I understand it was about the heaviest on the whole line, isn't it?—A. So far as I know, I think it is.

Q. And you used to go there seven or eight times a year?—A. I have been there seven or eight times a year.

Q. From personal knowledge, are you able to speak of the conditions existing there and of the character of the classification made there?—A. Yes, it is from personal observation that I have spoken altogether.

Q. You were there with Mr. Lumsden and the Transcontinental Commissioners in October, 1907?—A. Mr. Lumsden went there without me.

Q. He never was there without you?—A. No.

Q. That is the occasion when you had a conference on the car with Mr. Lumsden, referred to in his evidence?—A. Yes, in October, 1907.

Q. And was that the occasion when Mr. Woods withdrew the statement which he had made—that engineers were classifying, not through their own judgment, but by arbitrary orders from their superior?—A. That was in October, 1907, yes.

Q. Now, in reply to Mr. Chrysler, you said that Mr. Lumsden ought to have stated in his reply that Mr. Woods had declared his willingness to withdraw that statement?—A. Yes.

Q. Will you now, from your recollection, tell the committee exactly what took place with reference to that? How did the subject come up, and what did Mr. Woods say?

Mr. MACDONALD.—Are you referring, Mr. Smith, to this letter from Mr. Woods, dated October 7, 1907?

Mr. SMITH.—Yes, in which he says it was not from errors in judgment——

Mr. MACDONALD.—Perhaps it would be as well to direct Mr. Doucet's attention to that—I would like to have it for my own satisfaction.

APPENDIX No. 3

By Mr. Macdonald:

Q. This letter Mr. Smith referred to here, Mr. Doucet, contains the following statement, which I assume is the one to which your attention is being directed. (Exhibit 10) Mr. Woods speaks in this letter thus:—

> As before stated, these over-classifications are not made through error in judgment, nor upon the decision of the resident or division engineers, who are fully acquainted with the character of the work, but by arbitrary orders from their superior.'

Mr. SMITH.—That is the statement.

By Mr. Macdonald:

Q. Would you understand that word 'superior' to refer to you?—A. Referred to the assistant district engineer, yes—referred to my assistant.

By Mr. Smith:

Q. Who would he be?—A. Mr. Gordon Grant.

Q. Now, just put plainly before the committee what took place on that occasion—that is on the occasion in October, 1907, when this letter and the statement that Mr. Macdonald has just read were discussed in the car before the commissioners. You might tell us just what was the date that you were there?—A. I have prepared a little note here that would explain that.

By Mr. Macdonald:

Q. Before reading that, in order to get the sense clearly, what was the date at which this letter and the clause in that letter in October, 1907, was discussed? What is the date of it?—A. The date of it was October, 1907.

Q. What date subsequent to the date of the letter, October 7?

By Mr. Smith:

Q. The date you met at La Tuque?—A. That is the date I am trying to look up. It will be in the book here.

By Mr. Moss:

Q. 25th October?—A. That is about right. It is subsequent to the letter being written.

By Mr. Macdonald:

Q. You were going to give us a statement as to what occurred on October 25, in which this letter of Mr. Woods' of October 7th is referred to?—A. Yes. (Reading from memo). The Chief Engineer wrote me a letter on October 22 or 23 saying that the commissioners and Grand Trunk Pacific engineers, as well as the contractors, were going up to La Tuque to examine into the complaints as to over-classification, and asking me to have the engineers concerned meet them to discuss the whole situation.

By Mr. Smith:

Q. That was Mr. Lumsden who wrote you?—A. Mr. Lumsden who wrote me. Well, on the way, on the car to La Tuque, he discussed the classification clauses—Mr. Lumsden discussed the classification clauses—and I as well as the other engineers maintained that according to the wording of the clauses there should be other solid rock returned than ledge rock and boulders measuring more than 1 cubic yard. The contractors were in the car, but took no part in the discussion. The commissioners thought that perhaps there might be some justification for our claim, but the Chief Engineer maintained that solid rock had to be ledge rock or boulders measuring more than 1 cubic yard.

Q. Wherever you refer to 'Chief Engineer,' that was Mr. Lumsden?—A. Mr. Lumsden, he was Chief Engineer at the time. When we discussed the charge of Mr. Woods—that the classification was being made by the arbitrary orders of the superior. and not by the engineers themselves on the ground, I called up Resident Engineer Mr. Matthews, from whom Mr. Woods was supposed to have got his information. Mr. Matthews then explained to Mr. Woods that he had not meant at all to give that impression, as he had a letter from the Assistant Engineer, Mr. Grant, to the effect that whenever he was in doubt as to the classification, that he was bound to consult his division engineer. Mr. Woods accepted this explanation, and said that such being the case he was perfectly willing to withdraw the charge. I asked him if in writing, and he said yes. This was before the other engineers and the commissioners. I told Mr. Woods that he should be very careful not to make any accusations of that kind without better grounds than he had. I might go on to say that he lost his temper, and things of that sort, but I won't say.

By Mr. Clarke:

Q. Is that right, that Mr. Grant said he would have to consult the division engineer?—A. Yes, Mr. Matthews said Mr. Grant told him so.

Q. He would have to consult the division engineer?—A. The division engineer. The division engineer is on the ground all the time, and the assistant district engineer is not.

Mr. SMITH.—The resident engineer classifying would have to consult the division engineer if he were in doubt.

By Mr. Clarke:

Q. I understood you to say that Mr. Grant said that he would have to consult the division engineer?—A. No, that Mr. Matthews would have to consult his division engineer.

Mr. MACDONALD.—Mr. Grant had instructed Mr. Matthews.

By Mr. Clarke:

Q. Matthews is the resident engineer?—A. Matthews is the resident engineer.

By Mr. Smith:

Q. What other Grand Trunk engineers were present on that occasion?—A. Mr. Armstrong.

Q. And Mr. Woods?—A. And Mr. Woods.

Q. What are you able to say from personal knowledge as to the interest which the Grand Trunk Pacific engineers took in your classification and in the inspection of the work? Take Mr. Armstrong, for instance; how much did he go upon the work?—A. Mr. Armstrong went over with us. He went over with me. He went over with the assistant district engineer.

Q. Did he go over quite frequently?—A. Well, as often as we did ourselves; but after Mr. Lumsden's interpretation of January, 1908, Mr. Armstrong stated himself that he had no further fault to find with our classification in District 'B.'

Q. Where, and to whom?—A. Oh, it is previous to that time that this question of classification came up. There has been no trouble since then.

Q. Where and to whom did Mr. Armstrong state that?—A. We looked that up this afternoon. He mentioned it to Major Hodgins. He mentioned it to me.

Mr. MACDONALD.—There is an affidavit put in. It would be well to find that and put it in.

The WITNESS.—And he wrote to Mr. Woods to that effect—Mr. Armstrong wrote to Mr. Woods.

By Mr. Macdonald:

Q. Since that incident referred to, in which Mr. Woods apparently unequivoc-

ally withdrew this statement, has there been any suggestion of any such charge since that?—A. Oh, no, none at all.

Q. And has there been any difficulty in regard to classification of a serious character in fact?—A. None at all; none that we could not discuss together and arrange on the ground.

Q. And have you substantially arranged all?—A. Yes, and we have orders now to arrange all the difficulties. The district engineers—that is, the district engineer of the Grand Trunk Pacific Railway and the district engineer of the Transcontinental—have orders to go over the ground together and arrange all difficulties arising out of classification, except on the 37 miles referred to arbitration.

By Mr. Smith:

Q. There are, as Mr. Lumsden told us, only some 37 miles upon which there is any, in your district?—A. Yes, that is all. Outside of that, they have orders to arrange with us any difficulties that may arise.

Q. By the way, there was something said about Mr. Woods withdrawing that statement in writing?—A. He never has. I think he would like to, but he dare not.

By Mr. Macdonald:

Q. What do you mean by 'dare not'?—A. I think his people won't let him.

Q. For what reason?—A. I can't say.

Q. Is there anything in this rumour that the Grand Trunk are going to make a claim, and want to use these issues?—A. Probably; I wouldn't be astonished.

Q. Well, we understand then beyond all question, Mr. Doucet, that since that date, October 25, 1907, just two years and a half ago, while the work of construction is going on, there have there been no differences between you or your subordinate engineers and Mr. Woods and his subordinates that have not been arranged?—A. That have not been arranged, or that are in course of arrangement; and we have distinct orders to arrange them between ourselves.

Q. So, whatever misunderstanding may have existed previous to October 25, 1907, under which Mr. Woods wrote this letter, and which it has been stated he withdrew, there has been no misunderstanding in regard to classification to give rise to any claims since then?—A. No, none.

By Mr. Smith:

Q. Now, with regard to District 'B,' I understand there is no question as to the total quantities; of course you have got your cross-sections and you got your measurements, the total quantities all through, haven't you?—A. Yes.

Q. The only possible question at all that has been raised has been with respect to the classification of some of this massed material?—A. Altogether, yes.

Q. With regard to the ledge rock you have got measurements for everything?—A. There can be no questions as to the ledge rock.

Q. Because you have absolute measurements?— A. Because we have absolute measurements.

Q. As to this massed material, have you any measurements at all?—A. We have the outside, the total measurements, but we have no measurements for the division of the massed material into the three classes of rock, loose rock, and common excavation.

Q. That, I understand from what you said in answer to Mr. Moss, was a physical impossibility?—A. Physical impossibility, and we have done that by percentages, but the total quantities are the same.

Q. You begin by your actual measurement of the total quantities?—A. Certainly, in all cases, every case. There is no cut or borrow pit on the whole district that is not measured accurately with level and tape.

By Mr. Moss:

Q. It was in order to make measurements in that way that those instructions were obtained from Mr. Lumsden?—A. Yes. That has been stated several times.

By Mr. Smith:

Q. And the difficulty will arise from the fact that you would have undulating or varying layers of this massed material that it would not be possible to measure at all?—A. Yes.

Q. You start with your accurate measurements of the total where it is feasable, where you have got any line of demarcation and you have measurements?—A. Yes.

Q. And where you have not got that clear line of demarcation it is necessarily a matter of calculation by estimates as best you can?—A. The division of the total quantity is simply a matter of——

Q. Can you suggest any other accurate way of doing it?—A. No, there is none.

Q. As an engineer you are satisfied?—A. I am satisfied.

Q. So that in your work on District 'B' you are satisfied that that classification has been done by as accurate a method as is known to engineering to deal with that matter?—A. Yes.

Q. Coming to the question of the interpretation of January, 1908, you of course have had communication of Mr. Woods' letter in which he accepted that?—A. Yes.

Q. I suppose you met Mr. Woods from time to time after he read that letter?—A. Yes, I have met him several times since.

Q. Did Mr. Woods ever recede from that position, that he accepted that interpretation?—A. No, he did not, but still kept writing letters all the same.

Q. He never withdrew the acceptance that he had given in writing which has been fyled here?—A. No.

Q. Of that interpretation?—A. No.

Q. Were you brought personally in contact with the resident engineers of your district?—A. Yes, every time I went over the work.

Q. Tell us what kind of engineers you had there; we have had reference to young and inexperienced engineers, and so on?—A. Well, the resident engineer is a young man. The very position implies that he must be a young man.

Q. Tell us what you know about those young engineers; what was their character? What was their ability?—A. Well, just the ordinary resident engineer. Men without very great experience.

Q. Were they college men?—A. Yes. A good many of them were college men, and they all joined the Society of Civil Engineers, either as students or as associate members. They were all required to join the engineering society.

Q. Were they of any different class from the engineer that you would find on the Canadian Pacific?—A. Not at all. Some of them had worked on the Canadian Pacific before they came to us.

Q. You were satisfied with those engineers?—A. Yes.

Q. And of course Mr. Lumsden, the chief, was also satisfied?—A. Yes; at least he did not say anything against them.

Q. He recommended them?—A. He recommended them.

By Mr. Macdonald:

Q. As a rule they were all Canadians, were they not?—A. Yes. We had a few Scotchmen, young Scotch engineers, and one or two English engineers.

Q. But as a matter of fact, every available young Canadian who had any engineering experience was drafted upon in connection with the railway?—A. Yes.

By Mr. Smith:

Q. They were given the preference?—A. They were given the preference.

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Q. Did the commissioners, to your knowledge, ever interfere in the appointment of those resident engineers or of any of the engineers?—A. No, never.

Q. They acted on the recommendation of the chief?—A. Yes.

By Mr. Macdonald:

Q. I suppose as a matter of fact, Mr. Doucet, the procedure was this: A young man who was anxious to be an engineer might enter the service as an instrument man?—A. Well, a great many of them started as rod-man.

Q. And they were promoted?—A. They were promoted to topographer.

Q. In accordance with the judgment of whom?—A. Of the man in charge of the survey party. They were promoted to topographer, possibly.

Q. From one step on to another?—A. One step; then leveler, then transit, then possibly put on construction.

Q. Then when construction began, what you did was to take the young men who had been engaged on the location surveys?—A. I selected the best, referred their names to the Chief Engineer, who recommended their appointment to the commissioners, who approved of it.

Q. So that the men whom you had with you were the pick of the men who had been employed on the location?—A. Yes.

Q. And I shall assume that you yourself exercised, and shall assume that the other district engineers exercised their best judgment in making the selection?—A. There was no selection made unless I was personally satisfied that the man was fit for the position. I will take full responsibility for that.

By Mr. Smith:

Q. Now, Mr. Doucet, you of course are familiar with the blue print and the interpretation of Mr. Lumsden of January, 1908?—A. Yes.

Q. Were they a sufficient guide to any engineer in making the classification in that special material we have spoken of as massed material?—A. I think with the percentage of rock in No. 5, the assembled rock, I think they would have been sufficient.

Q. If they had been told what percentage was rock?—A. Yes.

Q. What percentage was agreed upon?—A. As I said before it was about fifty per cent. Mr. Lumsden forgets that.

Q. The size of the rock was not given, that was no indication as to size of rock at all?—A. No. First of all it was one foot and then he withdrew that. But every time I spoke to the engineers I certainly gave them to understand that four inches was considered pretty course gravel.

Q. Well, at all events, the young engineer was left to his own judgment as to how he would classify the material. There was no scale given in the blue print?—A. No.

Q. And there was no proportion of rock or no proportion of cementing material?—A. No.

Q. How would you regard that, as an engineer, as a guide to a young engineer?—A. Well, as I say, the individual rocks were larger than what we call gravel—that is of two and two and a half inches—because in a case of this assembled rock in District 'B' the stones are not all of the same size. It is very seldom you see a mass of gravel of two inches or three inches in size. You may find a great many stones of that size and then suddenly you come across boulders of over two feet and so on. all massed together. But there is no rock in the form of a mass of boulders three inches or four inches in size.

By Mr. Chrysler:

Q. And of uniform size?—A. No. And so with the blue print, and taking this gravel of 2½ or 3 inches in size and given the percentage of rock in the mass we decided on fifty per cent.

By Mr. Smith:

Q. But without any percentage specified, without any scale, and without any size it would be rather indefinite?—A. Certainly. And that was why we were so glad to get that definition of fifty per cent.

Q. As Mr. Grant put it the other day, the young engineers were asked to classify by a picture?—A. Yes.

Q. Was that a fair thing to do?—A. Well, it was, I think, outside of that assembled rock.

Mr. MACDONALD.—I have found the affidavit of Mr. Armstrong which had been alluded to.

By Mr. Chrysler:

Q. Mr. Armstrong was—— ?—A. He was district engineer.

By Mr. Macdonald:

Q. Under Mr. Woods of the Grand Trunk Pacific?—A. Under Mr. Woods. He resigned and Mr. Fotheringham replaced him.

By Mr. Smith:

Q. You must of course have discussed this question of classification with Mr. Armstrong?—A. Yes.

Q. And did Mr. Armstrong disagree with you on questions of classification?—A. Sometimes he did.

Q. I suppose there would be differences, I suppose no two engineers would be absolutely in agreement?—A. No, not at all. It is a question for discussion and adjustment between engineers.

Q. And you had no serious difficulty with him?—A. I had no serious difficulty at all.

Q. Are you aware of his having made an affidavit on the 19th of June, 1908?—A. Yes.

Q. With reference to this question?—A. Yes.

Q. Will you look at the affidavit I now hand to you and say whether this is the document in question?—A. (After referring to document): That is what he said to me.

EXHIBIT No. 102.

Dominion of Canada, Province of Ontario, County of Carleton, To wit:

I, John Armstrong, of the city of Quebec, in the province of Quebec, civil engineer, do solemnly declare:

1o. That if I had been permitted to testify as a witness before the Special Parliamentary Committee investigating Major Hodgins' charges I would have given the following evidence:

(a) That I was district engineer in district 'B' (Quebec) for the Grand Trunk Pacific Railway Company from August, 1906, to April, 1908;

(b) That I never told Major Hodgins or any other person that the over classification in the Quebec district would amount to $2,000,000, and I informed Major Hodgins before he submitted his synopsis of charges to the special committee that I would not corroborate his statement in this regard;

(c) That when Major Hodgins visited the work in the Quebec district in June, 1907, there had been no objection to classification on the part of the Grand Trunk Pacific Railway Company, and in my opinion there was no ground at that time to justify any objection to classification;

(d) That in my opinion there were not more than $50,000 involved in the classification objected to by Mr. H. A. Woods in his letter to Mr. Hugh L.

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Lumsden, dated October 7, 1907, and referring to the work inspected by Mr. Woods and myself a short time prior to the writing of the said letter;

2o. That after receiving a copy of Chief Engineer Lumsden's interpretation of the specifications I wrote to my superior, Mr. Woods, stating that according to Mr. Lumsden's interpretation the classification of District 'B' could not be objected to and in some cases might be increased. This condition prevailed up to the time I left the work in April, 1908.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

JOHN ARMSTRONG.

Declared before me at the city of Ottawa, in the county of Carleton, this 19th day of June, A.D., 1908.

Charles Murphy,
A Notary Public.

By Mr. Macdonald:

Q. You say, Mr. Doucet, that he made some statement to you there?—A. He told me that after that interpretation by Mr. Lumsden of January, 1908, he had no further fault to find with the classification in District 'B,' and that he had reported so to Mr. Woods.

Q. He said he had reported so to Mr. Woods?—A. Yes.

Q. He also states there was not more than $50,000 involved?—A. That is what he made the difference at that time.

Q. In this whole district of yours?—A. In the whole of the part under discussion.

Q. That is the part referred to by Mr. Woods in this letter?—A. Yes.

Q. That the total amount in question——A. He made the difference $50,000.

Q. $50,000?—A. Yes.

Q. And that difference has all been adjusted and disposed of?—A. That is under arbitration still.

Q. That was referred to arbitration?—A. Referred to arbitration.

Q. But outside of that point?—A. Outside of that point the respective district engineers have orders to arrange the matter among themselves.

By Mr. Smith:

Q. In your experience on the Transcontinental line did the commissioners ever interfere in the matter of classification?—A. Never.

Q. Did the commissioners ever give you instructions themselves?—A. Never.

Q. If they had any instructions they came through whom?—A. I don't know who they instructed. The instructions never came from the commissioners, they always came from the Chief Engineer to me—to the district engineer.

Q. Would it have been possible for the commissioners to have interfered in any way with the question of classification without its coming to your knowledge?—A. No.

Q. And in the performance of your duties as an engineer, either with respect to classification or anything else, did the commissioners ever interfere at all?—A. No.

Q. Mr. Lumsden, himself, has told us that he was never interfered with by the commissioners in any way. Now with regard to the engineering staff generally, from the chief down, had you ever any knowledge of interference by the commissioners to influence an engineer in classification or in the performance of any other duties?—A. I cannot speak for the Ottawa office because I was not here, but as far as myself and the men under me are concerned we were never interfered with by the commissioners.

Q. Did you ever hear of such a thing?—A. I never heard of such a thing.

Q. I ask you also whether you ever had reason to suspect the good faith of any engineer in District 'B' in the classification he made?—A. No. There were mistakes of judgment as happens on other railways, but as far as bad faith, never.

Q. And when you found those mistakes of judgment did you take steps to correct them?—A. Certainly. Always.

Q. Did you ever find the engineers attempting to conceal anything that had been done?—A. No. Never.

By Mr. Chrysler:

Q. I want to ask Mr. Doucet, who was the resident engineer on the residency where these cuttings were that we were looking at this afternoon?—A. Mr. Cressman.

Q. Is he still in the service of the Transcontinental commissioners?—A. Yes.

Q. Could you secure his attendance?—A. I think we could get him here for Thursday.

Witness discharged.

The Committee adjourned.

TUESDAY, April 19, 1910.

The Committee met at 11.30 a.m., Mr. Geoffrion, Chairman, presiding.

HARRY ERNEST HUESTIS, sworn:

By Mr. Chrysler:

Q. What is your present position?—A. Assistant district engineer of District 'B.'

Q. You are the assistant then of Mr. Doucet?—A. Yes.

Q. Is there another assistant on the district?—A. Not now in connection with the railway itself.

Q. Then are you assistant for the whole of the district, both north and south of the St. Lawrence?—A. Yes, sir. There is another assistant for the terminal work.

Q. That is at Quebec?—A. Quebec bridge to the city.

Q. But you are assistant for the whole district, exclusive of that terminal?—A. Yes.

Q. How long have you been assistant? Perhaps you had better give it in your own way? When were you first connected with the work?—A. December, 1904.

Q. What was your position then?—A. Then I was on location, locating engineer. I was locating until January, 1907.

Q. Where were you working on location, what part of the line?—A. Both on the north and south side of the St. Lawrence.

Q. On District 'B'?—A. On District 'B.'

Q. What was your next step?—A. Division engineer of division 5, January 1, 1907.

Q. How long did that last?—A. Until May 19.

Q. Five months?—A. Five months.

Q. Where is division 5?—A. It is contract No. 9; it is from Quebec bridge, 50 miles west.

Q. Then no part of that was in dispute?—A. No, sir.

Q. What happened in May, 1907?—A. I succeeded Mr. Grant as assistant district engineer on the north shore.

Q. On District 'B,' on the north side of the St. Lawrence?—A. Yes.

Q. Did that continue up to the present time?—A. No, sir, I was there until the 10th September, of the same year.

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Q. Four months or so?—A. Four months, or three and a half months.

Q. As assistant district engineer for the north side?—A. Yes.

Q. What happened then?—A. Then I was transferred to the north side of the Quebec bridge, east.

Q. How long were you there?—A. Until about the end of February, 1909.

Q. So, from September, 1907, to February, your work occupied you on the south side of the St. Lawrence?—A. Yes. Then, since February, 1909, to date, I was on both sides.

Q. Well, then, have you a personal knowledge of the cuttings that have been discussed here? You have heard the evidence given before the committee?—A. Yes.

Q. Have you visited any part of the work in the course of your duty while the work was in progress?—A. Yes, sir.

Q. Have you seen the material that is described in the evidence by Mr. Lumsden as assembled rock, or was spoken of yesterday by Mr. Doucet as massed material?—A. Yes, sir.

Q. Well, are there varieties of it?—A. Varieties only with regard to the different size of boulders that may occur.

Q. Varieties in the distribution of the material, or rather the relative quantities of the material at different points?—A. Yes.

Q. Is it otherwise much the same in its character wherever it occurs?—A. Pretty much the same.

Q. Are there variations in the degrees of tenacity of harness of it. Is it harder to take out in some cuttings than in others?—A. Yes, I think it is harder in the deeper cuttings.

Q. What is the difference in the deeper cuttings?—A. Well, it is probably more hard on account of the weight, the pressure above. You will find these cuttings as a general rule much harder at the bottom than at the top.

Q. What would be the depth of the cuttings in which you would find a perceptible difference between the hardness of the material at the top and at the bottom?—A. Cuts over 30 or 40 feet deep.

Q. In cuts over 30 or 40 feet deep it is harder at the bottom?—A. Yes.

Q. Are there any differences in such cuttings in the way the boulders are distributed?—A. No.

Q. There is no rule about it?—A. No, no; absolutely none.

Q. They are not, for instance, found in greater quantity in the bottom of a cut than at the top?—A. That is what I say; the matter is more cemented at the bottom as a general rule.

Q. But are there larger proportions of boulders at the bottom of a deep cutting than at the top?—A. Not necessarily.

Q. It may be the other way?—A. It may be the other way.

Q. You may find a mass of boulders at the upper part of the cutting and gravel and sand underneath?—A. Yes.

Q. We have been speaking all through of boulders. Is that a correct description of the form of stones that you would find there. I understand that a boulder is a rock that has been rounded by water deposit?—A. Yes.

Q. Or possibly the grinding of a glacier as angles are rubbed and worn off?—A. Yes.

Q. Is that characteristic of the rocks in this material?—A. Yes, it is, particularly in the St. Maurice.

Q. That is angular broken rock distributed in the massed material?—A. No, sir.

Q. Then what composes the material between these boulders?—A. Oh, it may be gravel or hard-pan or clay.

Q. No settled rule about that?—A. No; it is a cemented material.

Q. Does it vary in different cuttings? Of course it would, I suppose, from what you say?—A. Yes.

Q. Does it vary in the same cutting?—A. Not particularly, no.

Q. Cementing material is apt to be uniform throughout the cutting, is it?—A. Yes. I think the clay mixed with the sand is more inclined to make cemented material than ordinary sand.

Q. That is your observation?—A. Yes.

Q. Sand is not so apt to make cemented material unless it is mixed with clay? —A. No.

Q. Did you have occasion in the course of your duty as assistant district engineer to examine the classification of this massed material on the whole 150 miles or any part of it?—A. Well particularly the part north of La Tuque; from La Tuque north during the couple of months I was there.

Q. How many miles north of La Tuque?—A. From about the 115th mile to about 132nd or 133rd.

Q. From mile 115 to mile 132 or 133, you had occasion, as part of your duty to examine the classification that was being returned by resident engineers. How many divisional engineers were on that part of the district?—A. There was only one then.

Q. Who was the divisional engineer?—A. At that time Mr. Bourgeois.

Q. Now, can you tell us what you did personally, your personal knowledge in examining that classification. Had a classification been made previous to that in most of the cuttings?—A. Yes.

Q. What were you examining it for?—A. Just to go up and see whether it was returned all right. To get my own opinion of the material. I accompanied Mr. Grant up the first time.

Q. Would it be correct to say that your duty at the time was either to approve the classification or to revise it if it were wrong or criticise it, which?—A. To criticise it more particularly.

Q. What was the general result?—A. The general result was I approved the classification generally.

Q. Had you occasion to find fault with it?—A. No.

Q. Not in any place?—A. Not in that place, no.

Q. Not in those 17 miles?—A. No.

Q. Not of the cuttings over those 17 miles?—A. No.

Q. Did you make any report upon it to the district engineer or was the district engineer with you?—A. He was with me once. Twice I made verbal reports to him and another time I accompanied Mr. Grant; I was up there four times.

Q. You were four times over that work for this purpose?—A. Yes, went with the commissioners; at the time of the Hodgins visit, I was there too, but it was not with regard to classification; I believe we did not classify it.

Q. When did that trip take place?—A. That was July, 1907 the trip to La Tuque. the time Mr. Lumsden went.

Q. At that time you only examined one cutting at La Tuque?—A. We walked through two or three cuttings.

Q. But all within five or six miles limit?—A. Yes.

Q. Somebody spoke of it before—that is the way I happen to know about it, and somebody said also in the course of the evidence that the particular cuttings you were looking at then were not afterwards used?—A. None of the five miles that Mr Lumsden went over was referred to specifically in his report here

Q. But was it on the revised line that was finally adopted?—A. Oh, yes.

Q. It was. Well, then I was mistaken about that. Well, was the work going on then in the cuttings over those five miles?—A. Yes, it was.

Q. How many cuttings are there in that distance?—A. I think there were 12,000

feet of cuttings. Mr. Doucet gave that evidence. I was here with him when he counted them.

Q. Well, we will find the number in the evidence, I think it was 10 or 12,000?—A. That is just roughly.

Q. What was the material excavated in these cuttings? Was it all the same?—A. No, there was some ledge rock but the majority of it was classified material, mixed material.

Q. When you say mixed material do you mean it was partly material that would be classified as solid rock, part loose rock and part common excavation?—A. Yes, and some ledge rock; one part of the cutting was ledge rock at the bottom.

Q. You say that none of the cuttings in those five miles are referred to in Mr. Lumsden's list?—A. Not individually; he makes a general statement on it.

Q. Do you remember his statement?—A. It is in the book there; from 50 plus 30 to 66 something.

Q. Can you find it in the book here?—A. I do not see it here, but I had an idea he just made a general statement in his first letter.

Q. Which covered these five miles?—A. Yes.

Q. Have you any personal knowledge of any of these points which are referred to in Mr. Lumsden's memorandum?—A. Not from memory, no. I saw these cuttings in the 17 miles that he refers to up to the distance I went, and at the time I had seen no reason to disapprove of the classification returned.

Q. But to speak of them now and tell us what was contained in them is beyond your ability?—A. Yes, here. I could probably do it on the ground.

Q. If you saw these cuttings you could tell what it looked like before the excavation was made?—A. Before the excavation was made. I located the line there.

Q. What was Mr. Bourgeois' capacity as an engineer?—A. He was a very good engineer.

Q. Do you think he understood the specification?—A. Yes, I think he did.

Q. What is your understanding of the specification. In the first place, do you understand that the interpretation which was given by Mr. Lumsden in January, 1908, was a change from the description of the classification in the specification?—A. Oh yes, from his point of view.

Q. And from your own?—A. I took it always that it included some other material besides ledge rock.

Q. Your view of the specification was that it meant other material to be classified as solid rock, besides ledge rock and boulders over one cubic yard?—A. Yes.

Q. Then whether Mr. Lumsden's interpretation of January was exactly as you would put it, it did concede that other material should be included under the heading of solid rock?—A. Yes, and I took it that Mr. Lumsden also agreed with our interpretation, more particularly from trips that he had made over the south shore, in which he agreed with our classification returned.

Q. When you say 'our' what do you mean?—A. Well, the engineers on the ground, the classification which was approved of by me or by Mr. Doucet.

Q. What was your view of it then?—A. My view was——

Q. What should the definition include in the specification?—A. Include material, boulders cemented together which were best removed by blasting.

Q. Was it necessary in your judgment that the boulders should be touching one another?—A. No.

Q. Was it necessary that they should form a fixed proportion of the mass?—A. Well, it made it easier to decide on some fixed proportion; that is the reason Mr. Doucet had been discussing the matter with Mr. Armstrong to arrive at some conclusion, and we had adopted that 50 per cent. Mr. Doucet came down from Ottawa, and he stated that Mr. Lumsden had approved——

Q. It was a sort of a working rule?—A. It was a sort of a working rule, yes, and we immediately instructed all our——

Q. You would not say that the definition implied that the percentage should be 50 per cent?—A. No, I think it was a liberal method.

Q. Or more or less?—A. No.

Q. Does anything in your view turn upon the hardness of the cementing material? —A. Without the boulders?

Q. No, there being boulders in it to a considerable extent, or a considerable proportion, would you class as rock material which could be removed only by continuous blasting and with some difficulty, and class as loose rock material which could be removed perhaps by blasting more conveniently than any other way, and with much more ease and in larger quantities?—A. I would class as loose rock material which could be blasted, occasionally blasted.

Q. That would make it loose rock?—A. Loose rock.

Q. It is something in that way that Mr. Grant seemed to express his views about it?—A. I think Mr. Grant was referring more to a form of sandstone that is seen in some cases where there are not many boulders, and when it is really sandstone in a metamorphic state of hardening. It is as hard as rock, practically speaking, yet, when it is broken up, it will disintegrate.

Q. He said in his view he would attach considerable importance to the fact that a blast of moderate power, say, would remove a large quantity, and he would be inclined to classify it as loose rock?—A. As loose rock.

Q. Yes, I understood him so. Apparently that is not your rule?—A. I would classify it as loose rock, even if they did shoot it, if it did not contain at least 50 per cent of boulders cemented together.

Q. You were present at the meeting at La Tuque, which was held for the purpose of discussing this matter, about October 21, 1907?—A. Yes, sir; I was taken there.

Q. I beg your pardon?—A. I was then on the other side of the river, but I was brought up on account of my knowledge of that five miles.

Q. Yes. Were those matters that we have been talking about just now discussed —the meaning of the specification?—A. Yes, sir.

Q. Did you take part in the discussion?—A. Yes.

Q. Did you express your views?—A. Yes.

Q. Similar to what you have now?—A. Yes.

Q. And the interpretation, as we have been told, was given out by Mr. Lumsden within a couple of months, the first form I presume in December and the final form of it on January 30?—A. On January 30.

Q. What do you say, Mr. Huestis, as to the correctness of the classification on District 'B,' as shown by the returned estimates, so far as the matter is within your personal knowledge?—A. I think there are cuttings there that have been and are being adjusted.

Q. In which the return was wrong?—A. Well, to some extent, yes, as to the measurement.

Q. In which the return would stand adjustment?—A. Yes.

Q. Would that, in all cases, mean a reduction of the estimate returned?—A. No.

Q. Would it mean a considerable change in the amount of the return?—A. No; not a very large change at all.

Q. Can you give us any idea by percentage of the amount involved in the question of classification of this mixed material?—A. In percentage?

Q. Percentage of the whole amount of the contract, for instance?—A. No, I could not do that; but what I would give you would be more on the knowledge I had gotten from Mr. Doucet, because the work has been going on there continuously since about March, 1907, I think.

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Q. Since March, 1907?—A. On the northern part, and since June, 1906, on the southern part.

Q. I think that is all, Mr. Smith.

By Mr. Smith:

Q. Mr. Huestis, what has your experience been as a railway engineer?—A. I went to Newfoundland in 1893, spent the better part of eleven years there on location, construction and maintenance.

Q. Was that on the Reid system?—A. Yes, with the exception of a couple or three winters, when I went to McGill University to take a course in civil engineering.

Q. And then when did you come on this Transcontinental?—A. In December, 1904, and I have been here since.

Q. So that since 1893 you have been continuously on engineering railway work?—A. Yes.

Q. Always on construction work?—A. Location and construction.

Q. Had you met with this class of material that we are talking about, principally this massed rock, elsewhere than on this line?—A. No; more particularly in Quebec, 100 or 200 miles north and south of it. As a matter of fact, north of that again we seem to get into a different country.

Q. Do you remember when first the question arose as to this mass, this cemented material, when was it the first question arose as far as you recollect?—A. As to the question of using the term 'massed'?

Q. No, as to the question of the interpretation of the specification, as a question; when did the question first come up practically on the road? Was it after Mr. Woods made his complaint, or did it arise between you and the inspecting engineers of the Grand Trunk Pacific?—A. We had this material, this massed material, which we classified as solid rock, and which was approved of——

Q. By whom?—A. By the inspecting or district engineers of the Grand Trunk Pacific.

Q. Do you know who they are?—A. Mr. Armstrong was the inspecting engineer in our case, on District 'B.'

Q. What were your relations with Mr. Armstrong, how often would you discuss question of this material, this classification?—A. Every day when he was in town and when we were out on the line together.

Q. I am right then in saying that you were practically in constant contact with him on that subject?—A. Yes.

Q. And he approved of the classification of this material, what we have now agreed to call assembled rock, under the clause 34 of the specification, solid rock?—A. He approved of it even after Mr. Woods, his immediate chief, disapproved of it, as shown by that affidavit in the Hodgins inquiry.

Q. Well, now, when the matter took an acute form you were asked to express your opinion, I believe?—A. Yes.

Q. And you did so in the letter which has been fyled in this inquiry as Exhibit 43; you will find that on page 233 of the proceedings of this committee, and I wish you would refer to it, Mr. Huestis?—A. That was after the trip to La Tuque.

Q. That was after the trip to La Tuque. What date was that? Do you remember?—A. It was in October, 1907.

Q. I know it was in October, but was it on the 24th, the 25th, or what date, do you remember?—A. I couldn't tell you.

Q. That was mentioned last night, but the date wasn't very definitely settled. The trip to La Tuque in October, was it on the 25th, or what date was it? At all events, have you a note of that date?—A. No, I have not.

Q. Then it was, at all events, shortly after that trip?—A. On our return from there.

Mr. CHRYSLER.—Yes, they arrived at La Tuque on the 25th of October and reported it on the 30th of October.

By Mr. Smith:

Q. It was after your return from there that you wrote to Mr. Doucet the letter, Exhibit 43, found on page 233 of the proceedings of this committee?—A. Yes.

Q. In that letter you say:

> In compliance with your request as to the interpretation I put and have personally applied to the clauses of the specifications referring to solid rock excavation and loose rock excavation, I beg to say that in the article 34 the wording 'solid rock excavation will include' suggests that something else than actual rock is to be considered; and thus further down the word 'masses' appears, which, to my mind, covers what solid rock excavation does include, and therefore the word 'masses,' in clause 34, I take, and always have taken, to refer to 'masses' of material (not necessarily masses of rock) which might best be removed by blasting.

That was the interpretation given in that letter as the result of your reading the specifications?—A. Yes.

Q. It was not suggested to you by any one?—A. No.

Q. Are you able to say to the committee whether you have discussed from time to time in your daily contact with the Grand Trunk Pacific engineers those clauses of the specifications and whether that represented fairly what you had agreed upon with them?—A. Yes, it does; at any rate they have my views of it and they agreed with the classification which was being returned at the time, so I naturally took it that we both agreed on the same meaning, there may be a difference in the wording of our two respective opinions, but——

Q. I suppose that all the classifications and the prices fixed in the contracts are all based on the question of cost, aren't they? The question of cost to the contractor to remove the material?—A. Yes.

Q. And thus we find that the test throughout the specifications seems to relate to the manner and cost of removal, such as 'may best be removed by blasting,' and such as 'may be removed by ploughing,' &c.—A. Yet we do not let cost be the basis of our interpretation or classification.

Q. No, you are bound by the specifications naturally?—A. We are bound by the specifications.

Q. But the basis of the whole thing is that the contractor is paid more for the materials, that it costs him more to remove; that is really the basis of the whole thing, isn't it?

Mr. MOSS.—That is the essential idea in framing the specifications.—A. Oh yes, that is to say we pay him as we judge the material to be.

By Mr. Smith:

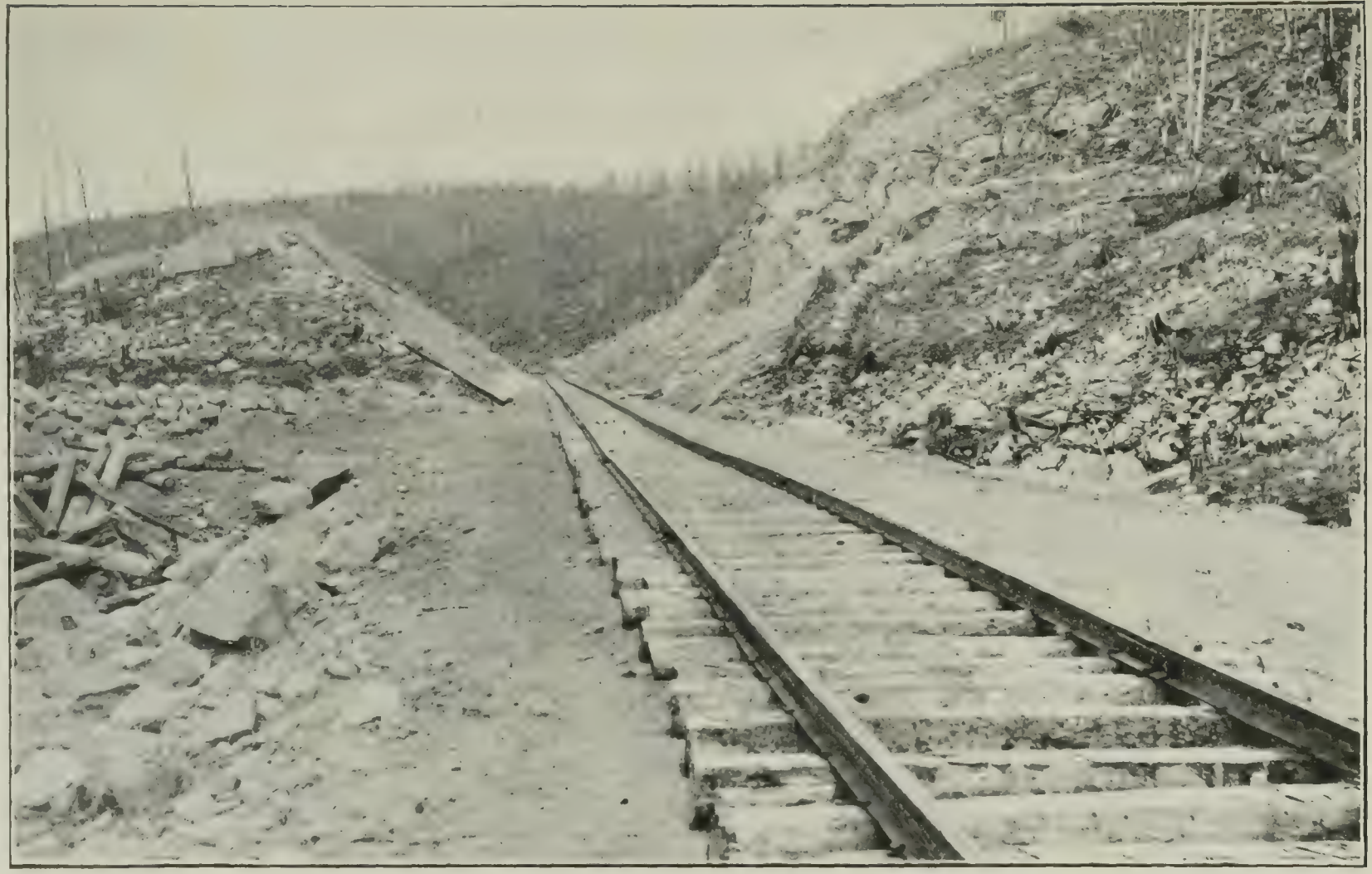
Q. Then when you have spoken as you did in your letter, you have used these words:

> 'I apply the word 'masses' more particularly to cemented gravel, on account of the fact that it is best removed by blasting, and by continuous blasting.'

A. Yes.

Q. When you use the word 'gravel' there what do you mean?—A. That is rather a bad name for it. I referred more particularly to cemented material at La Tuque, that is the 5 miles we had seen up to that time, we couldn't call it gravel.

Q. Can you illustrate that further?—A. I now exhibit 4 photographs which were taken by the resident engineers on District 'B,' which will illustrate the class of material that I am more particularly referring to. These are just picked out at random.



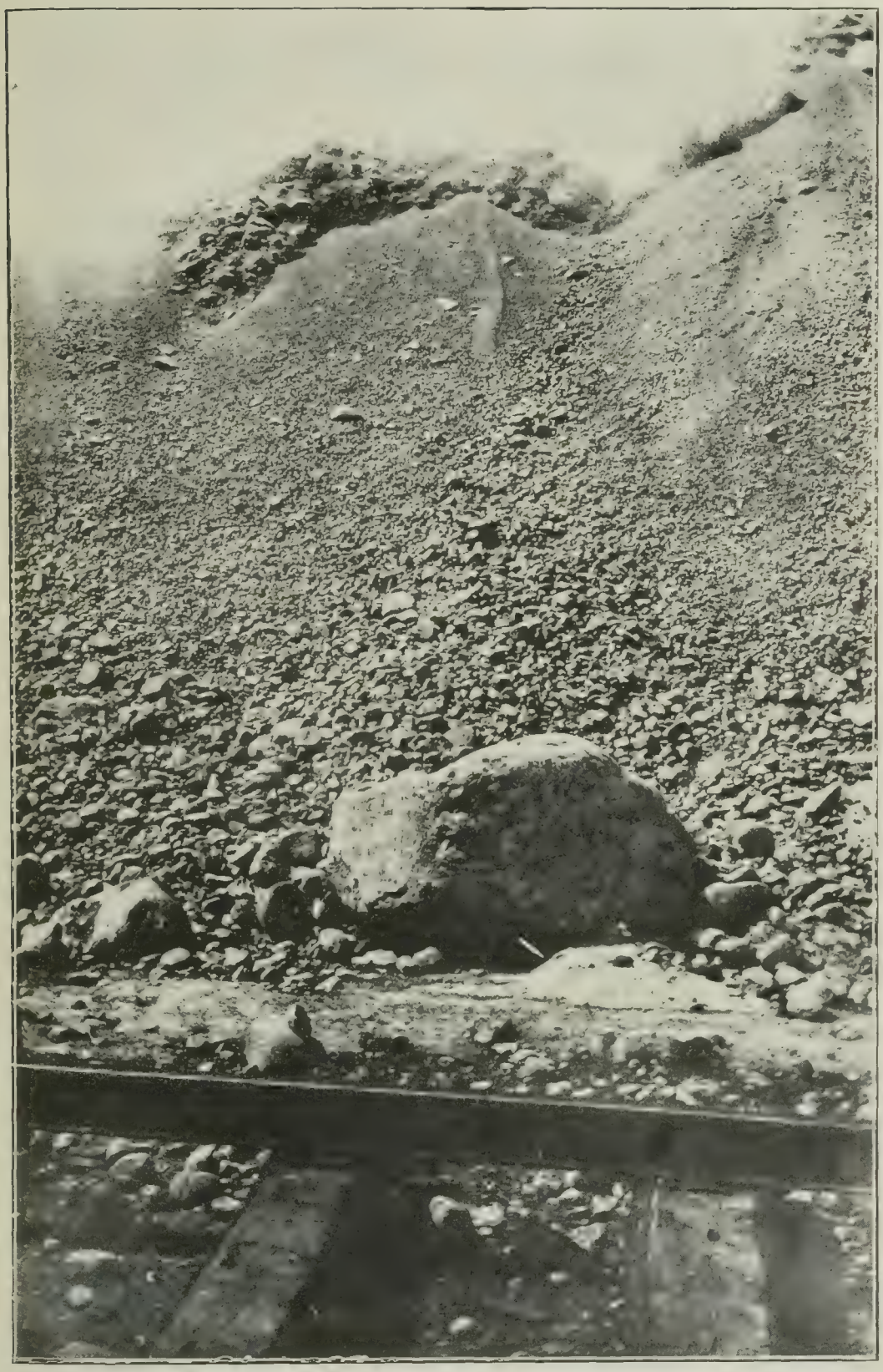
Showing mass of rock on surface as compared with trimmed slopes.



Showing slopes after lapse of some time.



Showing slopes about a year before Mr. Lumsden went over the work.



Showing apparently good ballast and cemented material standing plumb at top of slope.
p. 624



Showing three different lifts, and manner of taking out a heavy deep cutting.

APPENDIX No. 3

(Photographs fyled as Exhibits No. 103 (*a*), 103 (*b*), 103 (*c*), and 103 (*d*), respectively.)

Q. Just look at the first of these exhibits, 103 (*a*), that appears to be taken after the steel is laid?—A. Yes, the idea there is to show on either side of the cutting the mass of rock which shows on the surface as compared with the few stones that are shown on the slope trimmed.

Q. What are you able to say now, Mr. Huestis, as to the change in the appearance of the slopes by a certain lapse of time?—A. It makes all the difference in the world, you would not recognize the cutting.

Q. Explain it more fully now, why?—A. Well, in taking out a cutting they first run a gullet through it with plumb sides, then you see the boulders sticking out everywhere, and when they trim it down these boulders all roll down and the top surface of the gravel or sand soon forms over it and makes a smooth slope, with the exception perhaps, of immense big boulders that are still sticking in it.

Q. Will you say whether that is exhibited particularly by Exhibit No. 103 (*b*)?—A. It is exhibited pretty well, yes.

Q. The general formation seems to be a very rocky formation, but the slopes seem to present a sandy appearance.—A. A sandy appearance with a few larger boulders left in.

By the Chairman:

Q. You would hardly discover the boulders unless you made borings?—A. No, and you might miss them even when boring.

By Mr. Smith:

Q. You might miss them in the borings unless they were of considerable extent of area?—A. Yes.

Q. You might just say that is due to?—A. Which?

Q. The change in the appearance presented by the slopes; what influences contributed to make that change?—A. Weathering, and the shaking of explosives to a certain extent affect inside the slopes, it shakes out the loose material, and the heavy material rolls down, the loose material coming on top of it.

Q. Exhibit 103 (*c*) does not show a line, can you say whether that was taken on the line or not?—A. Yes, there (pointing to exhibit) is a hand car on the line.

Q. The rails are laid there, are they?—A. Yes sir, these were taken probably a year before Mr. Lumsden went up there.

Q. And still the slopes begin to assume the appearance of fine material?—A. Yes, this is one that will probably look like making good ballast.

Q. This is Exhibit 103 (*d*)?—A. Yes.

Q. It looks as if it would afford material for making fine ballast.—A. I don't say that.

Q. But from outside appearance it would look that way?—A. Mr. Lumsden would say that it looks like good material, taking the big stones out it looks like good ballast, but you can see cemented material standing perfectly plumb at the top of the sides.

Q. Mr. Huestis, in that Exhibit 103 (*d*) you will tell us whether in your opinion that represents the line of cemented material or whether it is simply a veil of soft and fine material falling down over it?—A. This may run up 60 or 70 feet, and the soft material has come down and made a toe there, do you see? (pointing to exhibit) More of it will come down eventually and cover the upper portion just the same as the lower portion is covered.

Q. The same as the top, representing cemented material?—A. Yes. I produce another photograph to illustrate Mr. Doucet's answer to a question by Mr. Clarke, showing the different lifts and the manner of taking out a heavy, deep cutting; it shows there three lifts.

(Photographs fyled as Exhibit No. 104.)

Q. In your experience and from your knowledge how would you compare the cost of removing that cemented material with the cost of removing ledge rock?—A. Oh, I would think it is pretty well the same. Some of them claim it is more, but I do not think it is more, that it costs more to move massed material than ledge rock.

Q. You do not think it does?—A. No, there may be very special cases where, on account of the deep cut and on account of the danger to the men working there by these boulders when detached coming rolling down, perhaps that is one reason why it may cost a contractor more to get them to work there.

Q. How about the borings for these blasts?—A. Generally they take out these in small tunnels, what they call cayutes.

Q. How long or deep are these cayutes?—A. They burrow them parallel to the roadbed.

Q. I see, they are horizontal?—A. Horizontal, yes.

Q. They do not make the borings vertical?—A. No, not on this massed material because the holes would fill up as fast as they are made.

Q. How deep or long are these cayutes?—A. It depends a great deal upon the nature of the material they are shooting and the height; in a deep cutting about 15 to 20 feet.

Q. These were, I think, described by Mr. Grant?—A. Yes.

Q. They put in how many blasts?—A. They may on the face of a cut put in two or three blasts so that they will be 6 or 7 feet apart.

Q. And what amount, in your experience, of material is removed by one of these discharges?—A. I could hardly say, they may shake up 5,000 or 6,000 yards in a blast, and they may shake up more, it depends upon the material; it is pretty hard to make a statement of that kind.

Q. Would it vary considerably, the amount of material removed by blasts of that kind Would it vary, and did it in your experience vary considerably?—A. No, in some ledge rock cuttings and side hill cuttings more might come out than the contractor would expect, but as a general rule they can tell pretty well what they expect to remove or dislodge.

Q. Take a long horizontal cayute removing or shaking in pieces you say 5,000 or 6,000 yards, how would the resident engineer go about classifying that?—A. He could only tell by his observation of the face and the side of the gullet before the shot goes off. They practically have the face and the sides to look at, it is like 3 sides of a box, then they burrow this horizontal hole, and he can see then the nature of the material and his only observation is when that goes off and is cleaned out he can look at the back of it again.

Q. And what he can find of the material?—A. What he can find of the material?

Q. But the material will have been so shaken up that a good deal of it will be disintegrated after the blast?—A. Yes, he cannot tell then about its cemented qualities, at all, if it is shaken up, that is the reason it is shaken up, to break up the cementing qualities.

Q. Is it possible to make accurate measurements of this material?—A. No—is it possible?

Q. Yes?—A. No, it is not possible.

Q. There is no method known to engineering by which it can be done?—A. No, sir.

Q. How do you arrive at it?—A. We arrive at it by estimating, not by guessing, the percentage, but by estimating the percentage, by taking the proportion of this gullet described of this cemented material, in some cases one-third, two-thirds, or perhaps seven-eighths, and then taking it again after the material has been cleaned up, taking the back of it, jotting them up each month and then from that working out

the percentage, that is how the percentage comes in. When I speak of the percentage it does not mean going into a cut and saying 'that is 25 per cent;' he estimates it by some visual measurements, he says, 'that goes up two-thirds of the slope.'

Q. And he takes into consideration the varying lines of this material as it may be?—A. Yes.

Q. In all cases in your district you are sure you had absolute scientific measurements of the total quantities?—A. Oh yes.

Q. And you had absolute measurements of the ledge rock?—A. Yes, and in some cases absolute measurements of the assembled rock.

Q. Wherever it is possible to get them?—A. Wherever possible, there are some cases where it is possible, where perhaps three or four feet from the surface there is a definite line.

Q. In all those cases where it is possible is it to your knowledge that measurements were taken?—A. Yes.

Q. And then, you say, that in conversation with the division and the resident engineers these were the views you had expressed to them?—A. Yes.

Q. And as far as you know were those views carried out by them?—A. As far as I know they were carried out.

Q. Then you refer to the visit to La Tuque in reference to the approval of Mr. Woods?—A. Yes.

Q. 'In reference to the approval of Mr. Woods, assistant chief engineer of the Grand Trunk Pacific, to the classification given on the work of Messrs. O'Brien and Martin, I was present at La Tuque when Mr. Woods visited there in June, and I understood from Mr. Grant that Mr. Woods was there at the time at the request of Mr. John W. Armstrong, to approve or condemn the existing classification. As he did not condemn, the only conclusion was that he approved, and since that time I had no doubt that Mr. Woods' interpretation of the specifications was not the same as my own.' I don't suppose that is what you meant, as it is there, you meant to say that you had no doubt Mr. Woods' interpretation was the same as your own?—A. I meant just the opposite to what appears there, I had no doubt that this interpretation was the same as my own.

Q. That is what you meant to say?—A. Yes.

Q. You had no suspicion that it was not?—A. No.

Q. This visit in June was somewhat longer than his visit in October?—A. Yes.

Q. Did you see Mr. Woods after the visit in June?—A. Not in reference to the classification at all, he never spoke of it after we left the line, he very rarely spoke of the classification, that is the reason that I have mentioned it there. On the line in these inspection trips, as a general rule, Mr. Woods would either agree with us or disagree and it would be adjusted, and naturally he gave us the impression that he agreed, and then he went to Montreal and wrote these letters.

Q. In which he disagreed?—A. In which he disagreed.

Q. Then you refer in the last paragraph of your letter to the visit to La Tuque just completed, 'In the early part of October, cut from station 5950 to 5969 which is classified by Mr. Bourgeois as 88 per cent solid rock, 12 per cent loose rock, was judged by Mr. Woods to be 100 per cent solid rock, which he could not possibly state on his declared interpretation of the specifications as the eastern end shows a cut where masses of material rather than ledge rock occur.'—A. Yes, that is right.

Q. Is that all that was stated concerning that by Mr. Woods?—A. That is what I meant to say there, that although Mr. Woods did not agree with the interpretation that massed material was solid rock, yet here was a case where he told Mr. Armstrong that he would give 100 per cent solid rock at that particular location, and that it was assembled rock and was not ledge rock.

Q. You mentioned that for that purpose?—A. I mentioned that as an illustration to show that his interpretation was different to his contention.

Q. As shown in his complaints?—A. Yes.

Q. This trip was on the day previous to writing that letter?—A. That is the trip of Mr. Lumsden, yes.

Q. You were present in the car when the conversation took place with Mr. Woods?—A. Yes, sir.

Q. Regarding the charge he had made that the resident engineers were classifying erroneously.—A. Yes, sir.

Q. Not due to an error of judgment 'but by arbitrary orders from their superior.'—A. Yes.

Q. Did you hear that?—A. Yes, sir.

Q. What was the nature of the complaint?

Mr. MACDONALD.—That is contained in Mr. Woods' letter of October 7, 1907.

Mr. SMITH.—Yes.

A. Well, the letter was read there.

Q. Mr. Woods' letter was read?—A. Yes, the letter of October 7 and some remarks were passed upon the nature of this letter, and Mr. Woods stated that he had received his information from one of the resident engineers, I think it was Mr. Matthews; we had Mr. Matthews right on the ground and he talked to Mr. Woods, so that Mr. Woods withdrew it and said he was in error, and Mr. Doucet asked him would he withdraw that in writing, and he said he would.

Q. You heard him say that?—A. Oh, yes.

Q. Did you know personally the resident engineers in your district?—A. Yes.

Q. You are brought into personal contact with them all?—A. Yes.

Q. What was the calibre of these men?—A. They are a very good calibre of men.

Q. Were they college men?—A. A great number of them were college men; all of them were connected with the Canadian Society of Civil Engineers.

Q. They were all, you are sure of that?—A. I think all the resident engineers were, yes. That was part of our instructions; in any case, they had to affiliate themselves with it.

Q. I see. The Canadian Society of Civil Engineers is, of course, the recognized body or organization of engineers in the Dominion of Canada?—A. Yes.

Q. And all of these men were either members or associate members of the Canadian Society of Civil Engineers?—A. Or student members.

By the Chairman:

Q. Who engaged them?—A. Who engaged the resident engineers?

Q. Yes?—A. Oh, a lot of them had been on the work at minor jobs and had worked up; the names of the best of them were picked out and submitted to Mr. Lumsden, who approved the recommendation.

By Mr. Smith:

Q. And, speaking from your personal contact, how did they compare with the resident engineers on other works?—A. Well, I think they are as good as any of them.

Q. What can you say now as to the supervision of the Grand Trunk Pacific engineers over your district? You had Mr. Armstrong—you have spoken of him?—A. Yes.

Q. What other engineers of the Grand Trunk Pacific were there engaged upon your district?—A. Mr. Fotheringham, who succeeded Mr. Armstrong.

Q. Had they only one engineer?—A. Only one engineer, and a clerk in the office.

Q. And, of course, they had Mr. Woods?—A. He was the Assistant Chief Engineer.

Q. Did Mr. Woods visit the districts from time to time?—A. Yes; more so than Mr. Lumsden.

Q. He visited them more frequently than Mr. Lumsden?—A. Yes.

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Q. You accompanied Mr. Woods on his visits there?—A. Yes, in every case; well, I won't say in every case.

Q. How many times did he visit there?—A. I had been on the line with him two or three times. He comes to Quebec usually for some particular thing, and he generally comes to the office.

Q. How many times altogether did you go over portions of the line with him?—A. I went over the complete 150 miles on the south side with him.

Q. When was that?—A. June 29, 1908, with Mr. Lumsden and Mr. Woods.

Q. That was in July, was it?—A. June; at the end of June, 1908.

Q. What was the result of that visit?—A. Well, that was the visit when Mr. Lumsden, after he made the trip, wrote to Mr. Woods and said that he agreed with the engineers' interpretation and with their classification, and that if Mr. Woods had any complaint he would leave it to the arbitration; that he backed up the engineers on the grounds.

Q. That Mr. Woods did?—A. No, that Mr. Lumsden did. Also on that trip Mr. Woods gave me the impression that he agreed with us.

Q. Did he condemn the classification in your presence?—A. No, never.

Q. Have you notes of what took place on that occasion?—A. Yes, I have notes of every cut.

Q. You have notes of every cut; have you refreshed your memory by reference to those notes recently?—A. No, not recently.

Q. If Mr. Woods had objected to any particular cut, would you have noted it?—A. I would, yes. There were objections made that our classification was too low, and they would not pay any attention to it at all; and yet, in respect to these same cuts, he wrote to Mr. Lumsden afterwards saying that they were high.

Q. Who complained of the low classification?—A. The contractors.

Q. Did they complain in his presence?—A. In his presence they entered a protest.

Q. They entered a protest that the classification was too low?—A. Yes.

Q. But you say Mr. Woods never considered that?—A. Neither of them spoke of it at all.

Q. Neither Mr. Lumsden nor Mr. Woods?—A. No.

Q. Then Mr. Fotheringham succeeded Mr. Armstrong?—A. Yes.

Q. Do you keep in touch with him?—A. Yes, we two go over the line together and settle things right on the spot.

Q. Does he go over it frequently?—A. Yes, about as frequently as I do.

Q. How did he regard the classification?—A. Well, this is all newer work; the work that is going on at present we have no disputes upon at all.

Q. Is the classification now similar to what it was on the other portions of the work?—A. In many cases it is.

Q. Were you present when the arbitrators made their visit, that being the occasion when Mr. Lumsden tells us he, from his personal observation and what was stated by his own engineers, had lost confidence in the engineering staff?—A. Yes, I was.

Q. Were you with him on District 'B'?—A. I was.

Q. You have heard of course the length of time they spent in making that inspection and so forth?—A. Yes.

Q. What was there stated on that occasion by Mr. Lumsden in reference to the classification that he condemned or that would have the effect of causing him to lose confidence in the engineers?—A. Nothing as far as I could see, he never said anything to us.

Q. Were you consulted then about any of the cuts?—A. No, I volunteered to give information once and was practically told it was not my business.

The committee arose until 3.30 p.m.

The committee resumed at 3.30 p.m. The Chairman, Mr. Geoffrion, presiding.

Examination of Mr. H. E. Huestis, continued.

By Mr. Smith:

Q. I wish, Mr. Huestis, to ask your opinion of the blue prints annexed to the Lumsden interpretation of January 8; what do you say as to that as a guide to young engineers classifying?—A. Well, it is rather indefinite. There is no scale shown. Without a direct instruction I think it would be pretty difficult for a young engineer to judge on that alone; and it is for that reason that, after discussion, Mr. Doucet issued this instruction that 50 per cent of it should be boulders, in order to be a practical guide.

Q. There is no proportion of rock indicated?—A. No.

Q. Is the size of the stones indicated?—A. No, nothing at all to indicate it. It is only a sketch. It is not a plan at all; it is only a sketch.

Q. You have had information, I suppose, of this unfortunate accident that happened yesterday?—A. Yes.

Q. On what portion of the road is that?—A. It is on a Grand Trunk Pacific contract, contract No. 11, running from the 150th mile to the 196th mile. This point is the 164th mile from Quebec.

Q. The contractors are the Grand Trunk Pacific?—A. The Grand Trunk Pacific are the main contractors.

Q. That is described as a slide?—A. That is a slide from the embankment; not a cave-in.

Q. What will that mean as far as the cost of construction is concerned? Well. it means that whereas we thought we had a fill of perhaps eight or ten feet, now we will have to increase the cuttings on both sides, and perhaps have a cutting where the fill actually was—make a waste cutting.

Q. Was that near a lake?—A. It is on the side of a small lake.

Q. What will be the effect?—A. Will you have to move the line further in?—A. We will have to throw the whole line bodily in.

Q. If there is a steep bank there—— ?—A. There is a steep bank.

Q. What does it mean in regard to that steep hill at the side?—A. It just means increasing the quantities of excavation, increasing the cost.

Q. You will have to move your road-bed?—A. Into a cutting instead of a hill.

Q. Into the hill?—A. Yes.

Q. Then will you have to move the whole of that hill up to its top?—A. No, it will probably mean the approaches and the exit, on account of our limitation of curvature, it will probably mean the approaches and the exit getting into this harder material, this solid material. That will necessarily mean more excavation. The cut made around here is what they call a summit cut; there was no lower ground to be had—I mean to say there was no lower ground; we took the lowest ground, a sort of a saddle. There is the cutting on the profile. (Showing profile). There is a small fill that was made, and which has slidden into the lake. Now we will have to throw this line up hill, so that this will be a cut.

By Mr. Chrysler:

Q. There will be a lot more cutting there?—A. This will be a cut instead of a fill. It may increase that, as being a summit cut we can't get out of it; it may mean that we have to widen that cutting, also this cutting here (showing on profile).

By Mr. Smith:

Q. And in so far as you have to move the roadbed afterwards into the hill, it will mean moving the side of the material of the hill?—A. The material of the hill, yes.

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Q. Have you, in your experience, met with the same thing before?—A. Well, yes; I have met it in places where the whole dump has sunk, where we thought we had a fill of eight or ten feet and we had put material to make up the fill of thirty or forty feet.

Q. Can anybody foresee those things that arise?—A. No. In Newfoundland we have made a dump for the whole season into a small pocket—what I mean by a pocket, a fill—before we actually found the bottom.

Q. Is that one of the elements?—A. That is one of the unforeseen things that may occur.

Q. That will account for the increased cost of the road?—A. Increased cost; that means to say that a man cannot foresee those things when he is making up the estimates.

Q. Did you ever hear the evidence of Mr. Grant and of Mr. Doucet with regard to the increased cost over the estimates on which the contracts were based?—A. Yes.

Q. Do you agree with their evidence?—A. Yes.

Q. Is there anything that you can add to what has been said on that, with regard to the increased cost over those estimates?—A. No, I don't think so, because I gave Mr. Doucet all the benefit of my knowledge at the time when he was talking about those things and figuring it up.

Q. With regard to engineering matters, will you tell us what your knowledge is as to the action of the commissioners; have they interfered with the engineers?—A. Not a bit; never.

Q. The instructions came from where?—A. My instructions came from Mr. Doucet. He usually used to show me any instructions that came from Ottawa, all signed by Mr. Lumsden, and now by Mr. Grant.

Q. In the conversation you referred to a while ago on the car at La Tuque, did the commissioners make any decision there, or interfere between Mr. Lumsden and the engineers?—A. There was no decision at all. There was merely a general discussion.

Mr. SMITH.—I think that is all I have to ask.

By Mr. Moss:

Q. Mr. Huestis, during the time that you were employed upon the portion of District 'B' in question in this inquiry you were familiar with the classification as it was being made?—A. At the time, yes.

Q. And you are satisfied, speaking generally, and without regard to a few slight exceptions which may have to be adjusted, that the classification was made in accordance with the specifications and the interpretation of them?—A. Yes, I am.

Q. And are you satisfied that the engineering staff on that district were competent and diligent in their work?—A. Yes.

Q. And are you satisfied as to their honesty of purpose?—A. Yes.

Q. And are you prepared to take, so far as it devolves upon you, full responsibility for the work on that section?—A. I am.

Q. Then you heard Mr. Doucet's evidence as to certain cuts—I don't want to go over those in detail again unless it is necessary; can you speak as to those cuts which were mentioned by Mr. Lumsden and reviewed by Mr. Doucet?—A. Yes. Well, I can't speak off-hand. I think if I were on the ground I could pretty well remember what the cut looked like before they even opened it up, at the time I was there.

Q. But you were familiar with them as they were being operated on?—A. Yes.

Q. And you had to do with the passing of the estimates and the return of the cross-section, hadn't you?—A. Yes. The cross-sections, of course, have only come in; some of them have not come in yet; we have no final cross-sections yet.

Q. But I mean so far as they have come in?—A. Yes.

Q. And the returns?—A. What we call our progress estimates.

Q. Those that have been made up to the time of Mr. Lumsden's arbitration trip?—A. Yes.

Q. You were familiar with those?—A. Familiar with them for the reason that going over the line with the division engineers and the resident engineers, if there were any change at all for the month—these estimates change every month, you know—if there was any monthly change, I always saw that the change returned agreed with any note or any remark I might have made on them. That is to say, I may have had some remarks to make for the monthly estimate as I saw it, and those remarks were in every case returned as instructions.

Q. Could Mr. Lumsden, going through, as he did on that arbitration trip, or the other arbitrators, form any idea as to the proper classification of those cuts?—A. No better than any other ordinary man.

Q. And speaking from the course of business, and from the fact that you had had to do with the return of those progress estimates and those classifications, could you say that assembled rock actually existed where the returns show assembled rock?—A. Before those cuttings that I had seen in progress, oh yes. That is what I say—that any note that I may have made, or any remarks—which were always agreed upon by the representatives of the Grand Trunk Pacific, or the division resident engineer—I would usually see that it was returned in the estimate for the month, at the end of the month, and I kept tab on it.

Q. You kept close tab on the returns as they were made?—A. Yes.

Q. Then you accompanied the arbitrators on this trip, didn't you, with Mr. Doucet?—A. Yes.

Q. And you made a report on it, which has been put in?—A. Yes.

Q. And which you heard read two or three days ago?—A. Yes.

Q. It was put in on Mr. Lumsden's examination on the morning that Mr. Grant was examined; it appears on page 514 of the printed evidence, dated 23rd June, 1909, and is headed 'Notes of Arbitration Trip, District 'B'; (Exhibit 79); it is not necessary that I should read that over to you; does that give a correct account?—A. That is more of a diary.

Q. Is it correct?—A. It is. It was written immediately after the trip.

Q. Is there anything that you desire to add to that in connection with that trip?—A. No, I think it pretty well sums up my impression of it.

Q. The statements which are said there to have been made by the different individuals were in fact made by them and recorded by you at the time?—A. Yes, I have also details since from the different engineers, which go more into detail.

Q. Of that trip?—A. Of that trip.

Q. Have you got them here?—A. Oh well, they are about sixty pages—every resident engineer's remarks.

Q. And criticisms?—A. What really happened, but nothing that would increase that general statement.

Q. The statements that you have received from the resident engineers tend to —— ?—A. Corroborate that.

Q. Then do you agree with what has already been said—that the resident engineer, or the engineer on the ground, is the proper man to classify material?—A. Oh yes, I think we all agree to that; even Mr. Lumsden agrees to that.

Q. Classification cannot be made after the work is done?—A. No.

Q. And can it be satisfactorily revised without the assistance of the men that made it?—A. No. The only way they know is simply to show, to corroborate, any classification that has been made by the resident engineers. In some cases you cannot do that, but in a good many cases you can.

Q. So that, apart from actual dishonesty or gross incompetency on the part of the resident engineers or the engineers who were on the ground at the time, their classification must be accepted as final?—A. With the exception of certain cuts of which we have our own notes, which are being adjusted and will be adjusted.

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Q. Those are notes of cuts which you were familiar with at the time they were being made?—A. At the time they were being made.

Q. But no engineer should attempt to re-classify a cut of which he had no experience when it was under operation?—A. Not generally speaking, no. He may go into an individual cut and come to a pretty fair estimate by borrow pits and things, but generally speaking, without a fair investigation, and depending entirely on the evidence given by the engineer who formerly classified it, it would be almost impossible; it would be impossible.

Q. So that it would not be putting it too strongly, perhaps, to say that it was farcical for that arbitration board to undertake to re-classify great stretches of work?—A. It was an absolute farce.

Q. In the way that they did?—A. It was an absolute farce.

By Mr. Macdonald:

Q. You say, Mr. Huestis, that from your experience in dealing with this work on this section you are sufficiently familiar with the acts and conduct generally of the division and resident engineers to be able to say that they did their work honestly and conscientiously, so far as you are able to determine?—A. I do, yes. I never had any difficulty in getting any explanation from them, even though they were in the wrong.

Q. Would it be possible for general over-classification to take place in any one of those districts without it being necessary for all the engineers to be dishonest, including yourself and your superior?—A. No, because we are supervised by the Grand Trunk Pacific engineer, and out of 507 miles there are only 32 miles they ever registered a kick about.

Q. I say, would it be possible, even in those 32 miles, for any dishonest classification to be made unless all the engineers connected with it, including yourself and your superior and the Grand Trunk inspecting engineer as well, were participating in the dishonesty?—A. No. We could detect any dishonesty.

Q. Would it be possible to have this thing unless everybody was dishonest?—A. No.

Q. Supposing an honest man were taking part, would he be bound to find it out?—A. I think he would.

By Mr. Moss:

Q. There would have to be a general conspiracy?—A. Yes.

By Mr. Macdonald:

Q. In which all parties would be interested?—A. Yes, all parties.

Mr. A. E. Doucet recalled.

By Mr. Macdonald:

Q. Did I understand you to say, in giving evidence before, that you had been connected with the Transcontinental Commission since its inception?—A. Since its inception, yes.

Q. You were connected with it at the time that Mr. Wade was Chief Commissioner?—A. Yes.

Q. Down to the time of his death?—A. Yes, to the time of his death.

Q. How far had matters progressed under his direction in the way of making of surveys at the time of his death?—A. Surveys were actually going on at the time, though we had not got into a position to make any final estimate, any estimate of the cost of the road.

Q. When were those estimates made in the way in which you have described, so as to enable the tenders to be called?—A. We received orders from Mr. Lumsden, who was the Chief Engineer, to make the estimates on the 150 miles of railway on the 25th November, 1905, and to have them ready by the 15th January, 1906, as the commissioners were anxious to advertise for tenders.

Q. Those estimates were for the purpose of enabling the tenders to be called?—A. Yes.

Q. Did you understand at any time that any estimate was being prepared for any other purpose?—A. No.

Q. Was it ever suggested to you that the estimates were necessary, or should be prepared with a view to presentation to parliament, in order to enable parliament to decide whether they would go on with the work?—A. No.

Q. No such estimate was ever prepared?—A. We were never asked to prepare any such estimate.

Q. When, do you remember, were contracts called for?—A. They were called in March, 1906—or they were awarded in March, 1906.

Q. One or two questions with regard to yourself personally, Mr. Doucet. You told us already, I think, your engineering experience?—A. Yes.

Q. Did you state that you were a graduate of the Royal Military College, as I understand you are?—A. No, but I am.

Q. And you have also had military experience, I understand, Mr. Doucet; you have been connected with the Militia of the country?—A. I have been connected with the Military College. I thought it was my duty to give what little experience I could to the Militia Department, and I did so. I have been connected with the militia ever since, in one position or another.

Q. Ever since you graduated?—A. Ever since I graduated, yes.

Q. You took part in the Northwest rebellion?—A. Yes.

Q. What position did you hold there?—A. I was aide-de-camp to General Middleton, acting as captain on the staff.

By Mr. Smith:

Q. You were actually wounded there?—A. Yes.

By Mr. Macdonald:

Q. You were wounded in the rebellion, were you?—A. Yes.

By Mr. Smith:

Q. Lost one elbow?—A. Yes, one.

By Mr. Macdonald:

Q. I want, before we separate, to direct your attention to a statement that was made in the House, and I think it is pertinent that we should hear what you have to say about it. It was made in March this year by a prominent member of parliament, who spoke as follows:—

> I am not prepared to say exactly where the fault lies, but undoubtedly if the original estimates were correct, then the charges of over-classification must be true. It is utterly impossible to conceive that there is not something radically wrong somewhere. Either the work was done with an incredible degree of incapacity or negligence in the first instance, or else the final classification is not a true classification.

The gist of that statement, if you notice, Mr. Doucet, is that the work of preparing estimates was done with an incredible degree of incapacity or negligence. Dealing with that statement first, Mr. Doucet, what do you say as to its truth or pertinence in regard to the work, in so far as you had to do with it?—A. I think I have already

explained that—that we were asked to prepare estimates before the surveys were completed. I think I said that we had some 70 miles of first location line to go on and 90 miles of preliminary lines, and I suppose that fully 90 per cent of that preliminary line was changed after the estimates were made, so that we did not have sufficient information in the first place to base accurate estimates on.

Q. That is an accurate estimate of cost that was being made up?—A. Accurate estimate of cost of railway.

Q. But you had estimates which were deemed sufficient for the purpose of figuring out quantities for the tenders?—A. Yes. They were sufficient for that.

Q. And that is all the estimate that ever was made, practically?—A. Until two years afterwards, after we began construction; then each division engineer was supposed and was held to make an accurate estimate of the quantities on his division, including classification, and those were the estimates that the Chief Engineer based himself on to make this estimate of $114,000,000 which was returned to the House; but this was two years after our original estimates were made.

Q. Well now, you have explained to us already the circumstances under which that estimate of $114,000,000 was made up; as a matter of fact you, of necessity, had to estimate quantities in portions of the country where construction had not begun, based upon conditions as you found them that far?—A. Yes, even in my own district there were but 300 miles under construction, out of the 500 miles making up the district.

Q. So that the estimate for the other 200 miles was problematical, being based purely on suppositious conditions entirely?—A. Yes, although we were in a better position to estimate on that 200 miles than we were in the first case, because our surveys were further ahead, further advanced.

Q. Well, now, is there any warrant for the expression there, that there was any 'incredible degree of incapacity or negligence in the first instance'—relating to that $114,000,000?—A. None whatever. The men we had engaged were as capable as those engaged on any other railway, with fully as much experience, only that we had not quite sufficient time to inquire into the conditions, the actual conditions.

Q. Your instructions were that haste—— ?—A. Haste was absolutely necessary.

Q. And expedition?—A. Yes.

Q. So much for the statement regarding negligence at the beginning; (Reading) 'or else the final classification is not a true classification,' he says. Now, Mr. Doucet, is that conclusion, which he undertakes to draw there, a necessary conclusion at all? —A. Not at all. The only classification under discussion is only over 37 miles in District 'B,' out of 500 miles, so that that conclusion is not correct.

Q. Would you be prepared to say what Mr. Huestis was asked a moment ago, that it would be impossible to have false classification—to use the phrase that has been used here—in your division there without there being a conspiracy not only of all of the engineers connected with the commission but also with the Grand Trunk Pacific inspecting engineers?—A. Absolutely impossible.

Q. Now, here is another statement, made by another member:—

> Either the government did their duty and employed engineers who made regular and sufficient surveys, had the ordinary test-pits sunk, the ordinary borings made, and the ordinary work of all kinds done to ascertain within reasonable limits the actual quantities of the various materials to be moved and of the various materials to enter into the construction of the work; either that, or else the government misled the country and went on with that work without having collected the proper information before proceeding.

Now, I think counsel has probably asked some of these things before, but I would like to get it in a succinct form on account of those statements having been made

in this way. The gentleman states in the first place: 'Either the government did their duty and employed competent engineers'; what do you say about the competency of your staff?—A. I think that the engineers employed were fully competent.

Q. Then what about 'regular and sufficient surveys'?—A. Well, I stated that for the first 150 miles the surveys were not sufficiently advanced to form a correct estimate of the total quantities or the classification.

Q. But were sufficient to enable—— ?—A. To enable the contracts to be called for.

Q. Then had the ordinary test-pits been dug?—A. Test-pits are never dug; test-pits are never put in; even if we had had three years to do our surveys in, instead of one year as we had, we would not have dug test-pits. It is not usual, and not practicable.

Q. In the matter of preliminary inquiries previous to railway construction in Canada has it been the habit to have test pits sunk?—A. No.

Q. Or borings made?—A. No borings made.

Q. What do you say about the phrase that is used 'the ordinary borings made' as if the borings were the ordinary and necessary things to be done in a preliminary way?—A. That would be extraordinary borings.

Q. To have had borings made?—A. To have had borings at all would have been an extraordinary proposition.

Q. (Reads):—'And the ordinary work of all kinds done to ascertain within reasonable limits the actual quantities of the various materials to be moved and of the various materials to enter into the construction of the work.' What you say in regard to that phrase is that you did the ordinary and reasonable work necessary for the purpose of obtaining sufficient information to call for tenders?—A. The reasonable and usual work.

Q. The usual work——?—A. Yes.

Q. Necessary for the purpose of getting sufficient information to call for tenders —A. To call for tenders.

Q. Further, the speaker says: 'Either that or else the government misled the country and went on with this work without having collected the proper information before proceeding.' Was the work which you did and the information which you collected in your division sufficient in your judgment, Mr. Doucet, for the purpose of enabling tenders to be called for and contracts to be let with fairness to the country?—A. Yes. And if we waited until these requirements—the requirements that are set out in that statement—were fulfilled——

Q. The contracts would not be called for yet?—A. Would not be called for yet.

Q. That is, if those borrowings——?—A. If those borrowings and test pits, if those conditions had been complied with——

Q. On this tremendous work?—A. On this tremendous work, the construction would not yet be started.

Q. And the country would be still waiting—?—A. Still waiting for the Transcontinental railway.

Q. For the inception of the Transcontinental Railway enterprise?—A. Yes.

Q. There is another statement to which I want to direct your attention (reads):

> To put this matter in plain terms, unless there has been the most extraordinary and inconceivable incapacity and negligence in the first instance, then there has been perpetrated on the public treasury of this country one of the most gigantic steals ever heard of. This dilemma the government must face in connection with this matter: the one or the other of these two things must be true.

What do you say to the proposition, Mr. Doucet, that there has been the most extraordinary and inconceivable incapacity and negligence in the first instance? Is there any warrant for any such expression?—A. None whatever.

Q. Then what do you say as to the proposition that 'there has been perpetrated

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on the public treasury of this country one of the most gigantic steals ever heard of,' so far as your division is concerned?—A. It would be impossible for such a thing to have happened.

Q. There is no warrant for such a statement?—A. There is no warrant.

Q. Is the fact that the estimates and the actual results show a disparity, sufficient to warrant the use of any such language?—A. Not at all.

Q. Is it a true statement—I am asking you this as an engineer—that has been made here: that 'one or other of these two things must be true,' either incapacity and negligence or a gigantic steal?—A. Neither is true.

Q. And it is not a fair or a true statement to make, that one or the other of them must be true?—A. No.

Q. Just one more question—in regard to that statement that was contained in a letter of Mr. Woods of October 7, 1907, in which he said that this classification of which he complained must have been done through the express orders from their superior to the resident and division engineers. Has Mr. Woods to your knowledge absolutely and unqualifiedly withdrawn that statement?—A. Most unqualifiedly. He made no reserve whatever.

Q. And whatever imputation may have been raised, or attempted to be raised, in any quarters on account of that statement having been made is absolutely swept away by his subsequent withdrawal?—A. Entirely.

Q. It has been suggested, Mr. Doucet, in some quarters, that the estimates which were prepared and on which the tenders were called were so framed by the engineers, more particularly in regard to the estimated quantity of solid rock and loose rock in comparison with common excavation, in order to enable contractors to have more facility in tendering.—A. I don't see how that could possibly occur, because the locating engineers sent in their estimates to the Assistant District Engineer who compiled the quantities on the different sections of surveys, and these were later on compiled by the assistant district engineer and sent to the district engineer. Then the whole was returned to Ottawa, so unless there was conspiracy between all the different members of the staff the thing could not possibly occur.

Q. Every engineer connected with the preparation of the estimates from the division engineer up to the chief would of necessity have to be in the conspiracy?—A. The locating engineer made the quantities on the twenty-five or thirty miles he had to locate. The next locating engineer did the same thing. These men separately, and at different times, sent in their quantities to the assistant district engineer who compiled those quantities. The assistant district engineer then handed them over to the district engineer who then sent them to the Chief Engineer here in Ottawa.

Q. So that everybody, from the Chief Engineer down to the district engineer would have to be in a conspiracy to defraud the country or assist the contractors illegitimately—?—A. Yes.

Q. To warrant any such statement to be made?—A. To warrant any such statement to be made.

Q. Are you aware of the fact that the quantities were not given to the parties who desired to tender and therefore the contractors had no advance information?—A. They could not possibly be. Our orders were most strict that nobody was to know anything about these quantities but that they had to be returned to the head office here at Ottawa, to the Chief Engineer. The engineers on the ground were not to give any information whatever to intending contractors.

Q. Were you formerly connected with the C.P.R.?—A. Yes.

Q. And had you to do with construction work then?—A. Yes.

Q. Was there anything different in the methods pursued in the construction of that railway?—A. The methods were exactly the same except that we didn't have the same specifications there that we had in the case of the Transcontinental; but the methods of procedure in giving contracts were exactly the same as they are on the Transcontinental.

Q. In the preparation of estimates?—A. In the preparation of estimates.

Q. In regard to that question now, as to the necessary information in the preparation of estimates: is it the course adopted by great railway companies like the C.P.R., to obtain information upon a portion of the line by location surveys and working up the quantities, so as to make a basis for the calling of tenders?—A. It all depended upon the haste in which they were. Very often they based their quantities upon the preliminary surveys altogether. If they had a little more time at their disposal they required location surveys to base their quantities upon.

Q. What about borings and test pits?—A. No borings whatever were made. No borings whatever have been made so far as I know on the C.P.R.

Q. Or no test pits sunk?—A. No.

Q. You are perfectly clear about that, Mr. Doucet, that the practice of the railway companies is not to have absolute quantities for the whole division of work that is to be let, but in your experience they get information as to part and call for tenders?—A. Yes.

Q. There is nothing anomalous about this proceeding?—A. No.

By Mr. Smith:

B. One or two questions. You explained, notably to Mr. Macdonald, that these estimates which were made up for the purpose of calling for tenders were made for that purpose only?—A. Yes.

Q. Have you any knowledge as to whether those figures were ever communicated to the contractors in order to base their tenders upon them?—A. No.

Q. You have no knowledge?—A. No knowledge.

Q. Have you any knowledge whether the commissioners ever gave them any communication of these figures at all?—A. I take it for granted that they were not communicated. As far as we were concerned they were not. We sent those quantities to the Chief Engineer.

Q. I direct your attention to Clause 40 of the contract, which is to be found at page 28 of the General Specification and Form of Tender of Contract, and which reads as follows:—

> This agreement is made and entered into by the contractor for the consideration herein expressed, solely on his own knowledge, information and judgment of the character and topography of the country, its streams, watercourses and rainfalls and subject to the same, and upon information derived from other sources than the commissioners, its officers or agents, of and respecting the nature and formation of the property upon which the said work is to be done, or the character, quantities, or location of the material required to be removed or to be used in forming the roadbed for the said railway, and the contractor does not rely upon any information given or statement or representation made to him in connection with the said contract by the commissioners or any of its officers or agents. The contractor further declares and agrees that the plans, maps and profiles of the said work, furnished by the commissioners, are given only for the purpose of general information.

How does the foregoing clause agree with what you know to be the practice upon the Canadian Pacific and other railways?—A. It is exactly the same. The contractors never get the quantities from the engineers when they are tendering. They get a profile, or they can look at a profile, and form their own judgment as to the quantities and the classification from that profile.

Q. And they are obliged to rely upon their own knowledge?—A. Yes.

Q. Of the character of the country they are going to build through?—A. Yes. They are requested to go over the work themselves and satisfy themselves as to what the classification and the quantities are on the portion advertised for tender.

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Q. Will you explain, in detail, and in a very elementary way, whether these quantities were required by the commissioners in order to enable them to appreciate the different tenders?—A. You have to make a comparison between the different tenders. You have to put so many yards of rock, so many of loose rock, and so on in regard to the different items in the specification, and these are compiled. One contractor may put in less for solid rock and more for common excavation.

Q. You mean in price?—A. The price per yard. The tenders are added at the end, and the man whose tender is the lowest on the whole gets the contract.

Q. So that if in one district the common excavation very greatly predominated, and the contractor tenders, we will say, at 20 cents for common excavation, and if the solid rock was a very small proportion, even where his tender was $2.50 for solid rock, it might be more advantageous to accept his tender? Is that the idea?—A. No. The lowest tenderer gets the contract.

Q. But supposing he is much lower in common excavation?—A. He would probably be lower at the end. The total amount at the end would come out lower.

Q. And it is for that purpose the commissioners desire some quantities?—A. Yes.

Q. To guide them?—A. Yes.

Q. As to how the different tenders would work out?—A. Yes, exactly.

Q. But you tell us these quantities were not compiled for the information of the contractors who tender in any way whatever?—A. We were expressly forbidden to give them to the contractors, and they were not given to them.

By Mr. Chrysler:

Q. The process is what has been referred to once or twice in the evidence as 'moneying out,' isn't it?—A. Yes; moneying out the tenders.

Q. For the purposes of comparison?—A. Yes.

Q. And that is done by multiplying the quantities under each item by the price?—A. The price of the tender.

Q. And arriving in that way at the total amount of each man's tender?—A. Yes.

Q. It is quite sufficient for the purpose of the proprietor or company letting the work to have these figures for their own information?—A. Yes.

Q. It doesn't affect the contractor at all?—A. It doesn't affect the contractor at all. The contractor is supposed to get his own information from the profile and going over the ground and satisfying himself.

By Mr. Macdonald:

Q. In 1882 some question arose as to the matter of classification and surveys on the Canada Pacific Railway, and I find that a Royal Commission examined into some questions in regard to it. I have a report of the evidence taken by that commission which contains statements made by Sir Sandford Fleming to which I would like to direct your attention with a view of having your opinion upon what he says in regard to the work generally. It is to be found at page 8 of a letter written by Sir Sandford, and I will read what he says. (Reads):—

> The commission proceeded to blame me for not learning before locating and contracting for the construction of the roadbed, the nature of the material which was likely to be met with in the prosecution of the work. The serious omission to which we have here called attention would not have occurred, had the Chief Engineer and his subordinates acted on the elementary principles of railway engineering—page 81.
>
> The commission appears to have made some researches in engineering literature in support of their accusation, and they base their criticisms on the views expressed in a test book written by a professor in a college in Scotland.
>
> They quote Professor Rankin, and lay great stress upon the necessity of 'Trial pits and borings,' 'In order to ascertain the strata of the ground, borings

are the less costly in time, labour and damage to ground, &c.' (Professor Rankin, page 81).

Do the commission mean that in equipping the various surveying parties with stores of food and clothing, with shelter, with axemen and axes to force a passage through the forest, and with packmen to carry supplies for all, that I should still further have increased the impedimenta? In all seriousness, do they mean that I should have added boring implements and gangs of men to work them, with the additional food and shelter which these extra men would need? Suppose I had so acted, would not the commission have had some grounds for censuring me for absurdly wasting public money?

It is one thing to cite a sentence from a college text book, to sustain a far-fetched argument; it is another to know what is reasonably expedient, and to carry into execution what is really practicable.

What do you say about that statement of Sir Sandford's?—A. I would not like to change one word of it. What applied to the C.P.R. in those days applies to the Transcontinental Railway to-day.

Q. (Reads):—

The commission, sitting in their room in Ottawa must have been reminded of matters which attracted attention twenty years ago, and in which one of its members filled a prominent place. I refer to the enormous amount sunk in the foundations for the Parliament buildings, by which the estimate and appropriation were so largely increased. On that occasion the principal officer of the Department of Public Works was censured for not having an examination made of the ground where the buildings were to be placed. The principal officer referred to is now one of my accusers, and he must know perfectly well that the cases are totally different. The examination of the ground for a massive building is an every day occurrence; that of the site at Ottawa might have been accomplished at any time in less than a fortnight. In the other case, such examinations are not common; they are not as a rule deemed necessary in this country, and in all probability, had they been ordered, it would have been necessary to delay construction for another year.

'The commission in one sentence pass censure because the surveying parties were unnecessarily expensive; in another they blame me for not making them more expensive still by adding more men, by dragging through forest and swamp, across rivers and lakes, the tools and machinery to make borings.

'In a country like England, with good roads and good inns everywhere, and where land damages are an important factor, the practice may without difficulty be observed, but it certainly is not common in America.

'At quite a different stage of the work, viz.:—As construction advances, boring is sometimes resorted to, but the progress is slow and tedious. A whole summer was spent in making the borings at one river crossing on the Intercolonial Railway.

'I have yet to learn that the practice, which the commission condemned me for not observing, is observed anywhere. I ask, is there at this moment any gang of men with boring implements, ascertaining the strata of the ground on any of the new lines under survey in Ontario or Quebec?

'I state, advisedly, that notwithstanding all the experience of the past there is not a single boring instrument in use to-day in the manner and for the purpose referred to by the commission on any one of the surveys now being made by the Canadian Pacific Railway Company at any point between the Atlantic and the Pacific.'

That confirms what you say with regard to the matter of boring?—A. Exactly.

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Q. And do you agree with the proposition he makes there as to the tremendous and excessive cost of carrying out surveys for the purpose of making estimates in the way indicated?—A. Entirely.

Q. What would you say, or can you give us an idea in a general way, as to the extra amount of cost that would have been incurred in making these elaborate, protracted and minute surveys that are spoken of?—A. It would be very hard to put it into dollars and cents, but it is considered impracticable to do.

Q. Would it have amounted to an additional burden on the country to have undertaken it?—A. Yes, it would.

Q. And you say there would have been no advantage in doing that in the subsequent results?—A. Not at all. There would be no advantage, but you would have the extra cost of making the borings and there would be the delay in construction.

Q. To sum up: having regard to your district, Mr. Doucet, to have made these elaborate and minute surveys first for estimate purposes would not have enabled the railway to be constructed for one cent less and would have cost the country a great deal more?—A. A great deal more.

Q. To have them done?—A. Yes, a great deal more.

Mr. S. R. Poulin, C.E., sworn:

By Mr. Chrysler:

Q. What is your present position, Mr. Poulin?—A. District engineer in district 'F.'

Q. When did you join the staff of engineers for the Transcontinental Railway?—A. In September, 1904.

Q. That was before the contracts were let?—A. Yes.

Q. What was your position then?—A. I was assistant to Mr. Doucet.

Q. On District 'B'?—A. On District 'B.'

Q. And did you remain long on District 'B'?—A. Until the 5th of April, 1905.

Q. That was while the survey was being carried on?—A. The preliminary surveys.

Q. Where were you sent to then?—A. From there I was transferred to District 'D' at North Bay, in charge of District 'D.'

Q. And did you continue—I think you did— in District 'D' until you were removed to District 'F' as district engineer?—A. Until the 1st of October, 1907.

Q. So that practically your acquaintance with the facts that are important here begins with your appointment as district engineer of District 'F' in October?—A. October, 1907.

Q. The cause of your appointment being the resignation of Mr. Hodgins?—A. Yes, sir.

Q. The work, I understand—you can correct me if I am wrong—on District 'F' when you went there, and so far as we are concerned with it here, was all on the one contract, that of Mr.—?—A. That is, the portion that was under contract at the time was all under one contract.

Q. Under Mr. McArthur?—A. Mr. J. D. McArthur.

Q. There was a portion of the district not in McArthur's contract which was not under construction?—A. It was not let then.

Q. What generally was the state of the work when you went there in October, 1907?—A. There was about twenty per cent of the contract done at the time. That is as far as grading it was concerned.

Q. I was going to ask you what portion of the grading was done?—A. About twenty per cent.

Q. Where was the work most advanced? Was it proceeding at the same rate all along the line or was it more advanced at one end or the other?—A. It was well advanced near the Winnipeg end, that is the prairie section.

Q. The prairie section out to Rennie?—A. Yes.

Q. Some of the witnesses have mentioned that, the crossing of the C.P.R., near Rennie?—A. Yes. And at other places where it was more easy to get to the line—more easy of access for supplies and so forth.

Q. Of course from Winnipeg it was easy to get at it, and west from Rennie, I suppose?—A. Yes.

Q. Where else could it be reached conveniently from the existing line of communication when the work was commenced?—A. It could be reached at Kenora on the Winnipeg river

Q. Yes?—A. It could be reached at Vermillion Bay, another station of the Canadian Pacific Railway, at Dryden, and at Dinorwic. They had communication on the roads cut out at those different places and boats on the lakes so as to reach it.

Q. Along the stations you mention, the general location of the Transcontinental is north of and fairly parallel to the general line of the Canadian Pacific?—A. That is from Rennie crossing eastward to Lake Superior junction. It varies from 12 to 40 miles in distance by the roads that they had cut out for access.

Q. Was it attacked at a number of different places, or was it worked wholly from the western end?—A. It was attacked at different places. In fact, you might say the work was open from one end to the other, but as you came east there was less work done than had been completed in the western section.

Q. How many divisions were there on District 'F' from Superior junction to Rennie crossing?—A. Four divisions.

Q. Four divisions there?—A. Yes.

Q. West of Rennie crossing I understand that the work is nearly all prairie work, is it? There is not much rough work?—A. Except about eight or ten miles west of Rennie crossing.

Q. And the heavy work upon the district lies east of Rennie crossing?—A. Yes.

Q. Is there much rock work?—A. Very much.

Q. What is the character of the country generally?—A. From Rennie crossing eastward it is very rocky.

Q. Is there much earth encountered, earth excavation?—A. There is probably one-fifth of it earth excavation.

Q. What is the character of the earth that you find along the line?—A. Clay, sand and gravel and cemented material.

Q. What is the character of the rock?—A. The rock is mostly granite, with occasional streaks of trap.

Q. Did you get limestone and sandstone?—A. No, sir; some gneiss.

Q. Trap and gneiss and granite?—A. Yes, granite. There are a few cuts of shale rock.

Q. Who did you get your instructions from?—A. From Mr. Lumsden.

Q. Did you have any written instructions? Did he write to you, or did you see him here personally?—A. He wired me; I was up at Lake Abitibi at the time, and as soon as I got his telegram I came to Ottawa and I got instructions from him.

Q. So that there is no letter of instructions?—A. There was a letter following, in which he told me I was appointed to take charge of District 'F' temporarily. When I went up there first I was supposed to be there three or four months to reorganize the district.

Q. I thought we had such a letter. I have the Hodgins report here, and we might find that letter. There is a synopsis of exhibits at page 63, and I have looked over that, but I do not see what I was looking for?—A. You will get it at page 34. I think. There is one there.

Q. There is a letter at page 32 of Mr. Lumsden to the commissioners. You see that?—A. Yes, it is on page 33.

Q. Was that letter put in?

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The CLERK.—The letter on page 32; no.

Mr. CHRYSLER.—I think that ought to go in now. That is from Mr. Lumsden to the commissioners with reference to the appointment of Mr. Poulin. Oh, it is already in as Exhibit No. 8.

Q. Then, Mr. Poulin, in Exhibit No. 8, which is on page 145, Mr. Lumsden reported the position of matters in regard to District 'F' to the commissioners?—A. Yes, I have this letter before me.

Q. In the last paragraph on page 145 he says:—

The situation in the easterly 190 miles in District 'F' is at present a difficult one, it being imperative that the work should be pushed as rapidly as possible, and in my opinion the use of standard timber trestle in many places would greatly facilitate the construction, but the engineers knowing that the contractors' prices for such are too low, hesitate to recommend any, but apply for permission to borrow rock (which in most cases, is the only available material) to make up large embankments. Was that situation as described there by Mr. Lumsden still in existence when you went there the next month after the date of this report?—A. I went there about two weeks after that.

Q. You were there in about two weeks after Mr. Lumsden wrote this letter?—A. Yes.

Q. There was first the necessity that the work should be pushed as rapidly as possible. Perhaps you might explain why that was so. Why was it imperative that in September, 1907, the work should be pushed?—A. Well, the contract was supposed to have been completed on the first day of October.

Q. 1907?—A. Of that year.

Q. Yes, but it was still a long way from completion?—A. There was about 20 per cent of the work done.

Q. I suppose there was 25 per cent of the work in yards, of the total excavation done?—A. Yes.

Q. Why the necessity for the use of standard timber trestle. What is there in the character of the country that made standard timber trestle desirable to facilitate the construction in many places?—A. In order to save time in making up large fills.

Q. Getting across large ravines or valleys?—A. Yes.

Q. In some cases across water?—A. In some cases across water also.

Q. Where the carrying of the embankment across by the ordinary equipment of the contractor would be either too costly or too slow?—A. Too slow; that was the intention at the time.

Q. Then the timber trestle in such localities as are indicated in that sentence was carried across a long fill and what then? The track got across on it?—A. Well, in a few places timber trestles were adopted and built. It saved the putting up of these embankments. In other places there were some other arrangements made by which the contractors took up certain plants.

Q. In the case of this railway, was it intended that that timber trestle should remain to support the track for any length of time?—A. During the life of the trestle, the life of the timber.

Q. That would be filled later on?—A. Later on.

Q. Well, the life of the timber would be eight or ten years, I suppose?—A. About that, as a rule.

Q. Are those trestles intended to be left unfilled——?—A. For that length of time, but there are only a few of them.

Q. There are only a few of them?—A. There are only a few of them.

Q. I thought these trestles were perhaps intended to be completed before the completion of the contract?—A. There are others, temporary trestles. You must distinguish between permanent trestles and the temporary ones which are filled by train immediately.

Q. That is the kind I had in my mind. Does the word 'standard' indicate that these are permanent?—A. Yes, standard trestles.

Q. Standard timber trestle means a permanent trestle that is not intended to be filled by the contractor, by train filling?—A. No, that is what they refer to as permanent trestles in that paragraph.

Q. The engineers knowing that the contractors' prices for such were too low, hesitated to recommend any of these contractors' prices for this timber trestle?—A. Yes.

Q. But applied for permission to borrow rock to make up large embankments? —A. That was to borrow rock only where there was water, to cross bays or lakes, &c.

Q. That is not the reason given here in the letter. The reason given is that in places where rock—or which in many cases is the only available material?—A. It was not done that way.

Q. It was not done that way?—A. No, there was no rock borrowed except where it was necessary to fill bays.

Q. The letter would indicate that borrowing of rock might be required in many places or in some places because there was no earth available to make the embankment with?—A. You might take that interpretation out of that letter but we had recourse to temporary trestles in those places where there was no water, and the embankments were made afterwards with train fill.

Q. Is train fill bringing earth for the filling from farther away?—A. Yes.

Q. Is there any limit to the length of distance that you bring train filling?—A. There is a limit for a certain price. After five miles the contractor gets one cent a yard for every additional mile.

Q. Well, in practice, is there a point where you would not think of bringing train filling because of its expense?—A. That would be a case of comparison.

Q. With the cost of filling it with rock?—A. Yes, borrowing rock.

Q. It then gets to be this, that the balance of cost between taking rock from the immediate vicinity and bringing earth from a point so far away that the cost of bringing it makes it about equal to the rock price?—A. Supposing it was 50 miles distant it would be just as cheap to borrow rock.

Q. But you say it was carried out, although Mr. Lumsden writes in this way in September—you got along without using rock borrow in any place except localities where the rock borrow was of advantage because you deposited it in embankments across water?—A. Yes.

Q. Where earth would have been more easily washed away and wasted?—A. Yes, that is as a general rule. There might have been at odd places a few yards borrowed to complete the embankment or something like that but it was the general rule, there might have been a few hundred yards.

Q. We are speaking quite generally so far in regard to this order to see what the situation was when you took up the work there?—A. Yes.

Q. (Reads):—

> In cases where the bases are on rock and in a considerable depth of water, I am prepared to allow such borrow sufficient to make up a 12-foot bank to grade, or if the grade line is a considerable height above the water to make up the bank to a height of say 2 feet above high water and of sufficient width to carry a trestle up to grade, but in very large fills wherever standard trestle can be used it would be a great saving in time and money over filling with rock.'

That standard trestle implies, as you told us before, a trestle intended for permanent use during the life of the trestle, and being the support of the track for probably eight or ten years?—A. Yes.

Q. Was that standard trestle then adopted at some place?—A. It was adopted at three or four places.

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Q. Then further down he makes the exact distinction which you have already spoken of (reads):

> There are numerous other places where temporary trestles might to advantage be used, but as such would have to be filled by the contractor before the opening of the road for traffic, ones of large dimensions should, as far as practicable be avoided, as the filling takes up considerable time.'
>
> As to what is called overbreak in rock cuttings, I find that the returns for July show such to be 11·6 per cent of the total rock removed, which to me seems exceptionally large, as few, if any, of the cuttings are as yet properly trimmed.
>
> In reviewing the whole situation in District "F," I am of the opinion that it would be a grave mistake to place the contractor in the position that he would have to abandon the work, as I am satisfied it would in the end cost more money to complete than if he were given some little assistance.

Now, the letter concludes with a recommendation that you be appointed as district engineer of District 'F,' temporarily, as the letter indicated, that is with the probability that you would return as district engineer of District 'B' if that proved to be convenient. That is about what it amounts to?—A. Yes.

Q. And your appointment was approved and the notice of it given in the following letter, dated the 26th September, 1907. This is Exhibit No. 9, printed on page 147 of the evidence. Then pursuant to this appointment you took charge of the work? —A. Yes, sir.

Q. Where did you make your headquarters?—A. At the beginning it was Kenora until about December; then we moved up to St. Boniface.

Q. December, 1907?—A. Yes.

Q. And after that you had an office at St. Boniface?—A. Yes.

By Mr. Clarke:

Q. How far is Kenora from the road?—A. It is about eighteen or twenty miles.

By Mr. Chrysler:

Q. What was the system by which you were kept informed as to the progress of the work and the measurements and return of quantities?—A. The usual returns made by the divisional engineers at the end of every month.

Q. Given to you at your office at Kenora?—A. At Kenora or St. Boniface.

Q. They were in District 'F' made, I suppose, as they were in District 'B,' of which we already have had evidence, first, by the resident engineer?—A. Yes, sir.

Q. To and through his divisional engineer?—A. Yes, sir.

Q. And then the divisional engineers reported to you?—A. Yes, sir.

Q. Did the divisional engineers' report consist of copies of the report of the resident engineers or a summary of them?—A. They send a report in detail on different sheets.

Q. Compiled?—A. And then they compile it on another form.

Q. Do you get copies into your own hands of the reports of the resident engineer?—A. Yes, sir.

Q. And also a summary of the compilation of them on the whole division made up by the divisional engineer?—A. Yes, sir.

Q. Well, have you examined or considered the matters in which Mr. Lumsden had stated that the measurement or classification of material on District 'F' did not meet with his approval?—A. Yes, sir.

Q. You might say, first, whether there is much discussion or question about the classified material, about material in masses or massed material, as Mr. Doucet calls it, on District 'F'?—A. There is very little. In fact, it does not amount to 1 per cent of the whole quantities of rock. The total quantities of assembled rock such as returned would amount to about 380,000 yards out of 6,200,000, and even any of the

engineers going over the same could not make a difference or deduct, at the most, if there was any deduction to be made, they could not deduct more than 100,000 yards out of it. If there was any change that would be returned into loose rock probably, and it might make a difference of about 75,000 to 100,000 dollars. That is about the only thing that could be done if there was any change.

Q. Am I putting it correctly if I say that the amount of divergence that would be expected between the extreme view of one competent engineer and another competent engineer, taking the opposite view as to the classification of massed material, would not on all the work make a difference of $100,000?—A. Not over that.

Q. The total quantity of excavation you gave as about 6,200,000 yards?—A. Of rock, yes; that is, the returns up to date.

Q. And of that about 305,000 yards is massed material or assembled rock?—A. 380,000; call it assembled rock.

Q. Or assembled rock, whichever you prefer to call it?—A. That is what Mr. Lumsden calls it.

Q. Of that 305,000 yards you mean us to understand that upwards of 205,000 yards would be agreed upon by every engineer?—A. Yes.

Q. Then, for the 100,000 yards remaining, in which you say there might be a difference of opinion fairly between competent engineers, what would the difference in price be. What would that amount to in money?—A. If it was returned as loose rock it would make a difference of $1.10 a yard.

Q. As compared with the rock price?—A. Yes.

Q. Are you giving us the price on McArthur's contract?—A. Yes.

Q. That price is for solid rock, $1.70?—A. Yes.

Q. And loose rock, 60 cents?—A. Yes.

Q. So that there is $1.10 difference in each yard?—A. Yes.

Q. And if you remove 100,000 yards from the solid rock category and classify it as loose rock, it would make a difference in money of $110,000?—A. Yes, that is provided it was all returned as loose rock; but out of that 100,000 yards there might be 25 per cent or 30 per cent which would be solid rock in boulders. There might be large boulders among them which would be very hard to determine.

Q. That even is subject to deduction for the quantity of material not returned upon the actual measurement of the boulders in it exceeding 1 cubic yard each in content?—A. Yes.

Q. However, that gives us an idea generally of the extent of the assembled rock controversy in District 'F'?—A. Yes.

Q. Well now, there is another point of dispute which is perhaps more serious in money. I am not sure whether it is; I am going to ask you—that is as to the difference of opinion as to how much should be allowed for overbreak. What does that amount to in figures, in money, in yardage, say in yards, first?—A. I have not figured it out what the average of the overbreak would be, but from 20 per cent to 25 per cent of rock.

By Mr. Smith:

Q. Of the whole rock?—A. Yes.

By Mr. Chrysler:

Q. Of the whole rock?—A. Yes.

Q. That would be as much as 1,500,000 yards?—A. Yes, that would be as much as 1,500,000 yards.

Q. How much of that could fairly be disputed? I suppose that is what we want to get at?—A. It is very hard to say what could be disputed.

Q. Perhaps you do not know?.—A. On account of the instructions that were

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previously given and upon which the contractors and the engineers were acting to allow all reasonable and unavoidable overbreak. These instructions were given.

Q. I saw a little sketch here. I don't know who made it or whether it had been put in, that little blue print of the overbreak. It gave me a better view of it than any I have seen yet. Is there much side hill work on District 'F'?—A. There is considerable in some places.

Q. You don't follow for long distances the bank of a river anywhere, do you, as they did on District 'B'?—A. No long river, but we run alongside of lakes.

Q. You run alongside of lakes?—A. A good many lakes.

Q. Are the shores of those lakes usually bold or flat?—A. They are very bold.

Q. Cliff formation?—A. Cutting across of points and crossing bays.

Q. Well, do you agree with what has been said as to the overbreak that is proper to be allowed—I think Mr. Grant gave evidence about it under this specification. Of course a question of that kind necessarily depends upon the specification. Have you seen that?—A. Yes.

(Witness examines blue print).

Q. Do you agree with that view as to the one side and the one place he has marked as being overbreak which should not be allowed because of excessive blasting. The over side is marked 'overbreak which might or should properly be allowed because unavoidable on account of the stratification or cleavage of the rock?'—A. Well, it represents——

Q. It is imaginary, of course?—A. It is imaginary; it represents the principle we would apply.

Q. Do you agree with it?—A. Yes, I agree with that.

Q. Do you know who prepared this?

Mr. CLARKE.—That was Mr. Grant.

Q. I was only going to lead up to this question; looking at the rock cutting shown on the right of the two in this blue print (Exhibit No. 76), did you encounter on your work in District F much rock of the character shown there in which unavoidable overbreak must occur?—A. Yes, very much.

Q. Is there much difference in different rock owing to the nature of it?—A. Yes, there is a great deal of difference, not only between different formations, but sometimes in different localities in the same kind of rock, in the same formation in different localities, and it may be more seamy in some places than it is in others.

Yes?—A. And the exception is in heavy work like there is in District F where the work is to be rushed through they naturally had to have heavy shooting and it opened up all the seams that there were in the rock, and it was very difficult in fact to——

Q. Am I right in understanding that the rock excavation behind the slope line in this specification is properly allowed and measured to the contractor where the excess behind the line is necessary taken out?—A. It was allowed, that is, the final returns were made allowing of overbreak outside the theoretical slope.

Q. Outside the theoretical slope in all cases except where it was negligently blown out, or the removal of the excess quantity was due to the excessive use of explosives?—A. In those cases it was deducted, the engineers had instructions to deduct the same.

Q. Now, did you take any steps upon your district to see whether the return, the estimates or progress estimates for work done conformed to the specifications?—A. Yes, sir.

Q. What did you do?—A. I visited the work several times—the first thing I did in taking charge of the district I went over it from one end to the other, and I took notes of every one of the cuts as it was, and I subsequently visited the work at different periods always in company with the division and resident engineers, and I always got all the information and asked for explanation as to what was done.

Q. Had you occasion in any instance to revise the estimates being made?—A. In some occasions I had occasion to tell them not to be so liberal, and on other occasions I told them to give more, that they were not doing what was right according to the specifications.

Q. You were occasionally revising the estimates of the division engineers in both directions?—A. Yes.

Q. You directed them in some cases to make deductions and in other cases to allow more than they had been allowing?—A. Yes.

Q. Now, looking at these lists of things—it has been stated in the evidence, I don't know why attention has been directed to it more than any place else, but a good deal has been said about the allowance of material from some borrow pits near Wabigoon?—A. Yes, that was the——

Q. Can you tell us anything about it that will be of use?—A. Those borrow pits were in the clay country.

Q. Yes?—A. That is where Mr. Lumsden said that he based his statements upon my evidence before the arbitrators as to my having changed the specifications.

Q. Yes?—A. And that was in my having told the engineers in that vicinity to return the clay material allowing for a portion of about 10 or 20 miles which was practically all the earth material that there is there, 50 per cent of common excavation and 50 per cent of loose rock.

Q. Yes?—And that I took it upon myself——

Q. Well, now, wait; was that the fact?—A. Yes, it is a fact.

Q. Does that appear in that statement of yours——?—A. In my evidence it does.

Q. In your evidence at page 104 of Exhibit 3 (a). Just show me the place that you are referring to first, get the statement.—A. It is on page 104.

Q. Yes?—A. It is about the middle of the page (Reads):

> Q. Did you, on any occasion, give instructions to any of your engineers to classify borrow pits of clay, which were ploughed by teams of four or six horses as loose rock?
>
> Q. Yes, and the answer was: (Reads):
>
> A. I gave instructions to my division engineer on that portion near Wabigoon river not to classify borrow pits which were ploughed by four or six horses, but I went over that portion of the work, and every time I went there there were eight horses and sometimes I saw six. The men that had been taken down there from the west were threatening to leave the work if some of them did not get loose rock. After discussions with the division and resident engineers, we came to agreement that it would be fair to allow them 50 per cent, of common and 50 per cent of loose rock in those borrow pits.

Now, I want to say this——

Q. Just explain what that was?—A. I want to say that Mr. Lumsden was aware of the fact eight months before he went up there as arbitrator, that I had discussed the matter with him in his own office at Ottawa, and told him of the difficulties that there were, and more than that, that plough test in the specifications——

Q. Would you allow me, you are getting a little ahead of the story. I want to know in the first place what the material was before you tell us that.—A. It is a mixture, it is clay in different stratas, there are portions which could be ploughed with four or six horses, and there are other portions that could not be ploughed with less than eight horses.

Q. Did it occur in the cuttings on the line?—A. In some of the cuttings.

Q. Because what is mentioned there is borrow pits?—A. Well, it was borrow pits and cuts on that district.

Q. You said about ten miles?—A. About ten miles.

Q. It did not compose the whole of the material in the cuttings, did it?—A. No. some cuttings were solid rock, that is, there was clay on top of the solid rock.

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Q. Did it occur at intervals?—A. At intervals.

Q. Along that distance of ten miles?—A. Yes, and there were some small cuttings which were all clay.

Q. Then there were those borrow pits that are referred to?—A. They were taken on each side.

Q. They were a widening of the cutting, were they, in this clay?—A. No, mostly the borrow pits were outside the right of way, extending in some instances one or two acres.

Q. Before telling us what you said to Mr. Lumsden tell us just what you saw about the work itself while it was being carried on, and what you have summarized there in that statement about seeing horses at work. How often had you seen it yourself?—A. I had seen it three or four times.

Q. While the work was going on?—A. While the work was going on.

Q. How were they excavating that material?—A. They were using teams, the portion that I paid special attention to at the time, they were scraping, using scrapers with horses, taking the material from those borrow pits into the embankment; in some places there were four horses which would plough about 3 or 4 inches at a time.

Q. It was ploughed, and the clay when loosened was moved with scrapers and put into the embankment?—A. Yes, and in other places——

Q. About the ploughing, you say it would only move, four horses being used, would only move about how much?—A. Three or four inchs of the surface.

Q. Yes, well, how much should a plough move, what would be the depth of the furrow?—A. It should be from 8 to 10 inches, with a 10-inch grading plough, if it is good material and a good plough, four horses or six horses should take it right down to the depth——

Q. To the depth of the share?—A. To the depth of the share or whatever you call it, that is a fair sample.

The CHAIRMAN.—That is 10 inches?—A. With a 10-inch plough, besides if there are stones or boulders they might plough a certain distance to that depth, and then the plough would jump from one to the other.

By Mr. Chrysler:

Q. Were there stones in this material?—A. In some places.

Q. Did you ever see more than four horses?—A. I saw every time I was there, there were eight horses.

Q. What sort of work did they do?—A. To my mind they didn't do as well as I have seen two horses do in other places where it was common excavation.

Q. Now tell me about this eight-horse plough test, is it usual anywhere to see eight horses on a plough, can they be used to advantage?—A. It is not.

Q. Can you get eight horses to pull at once?—A. No.

Q. It does not amount to eight horses as a force unless you can get them trained to pull together, I suppose?—A. That thing put in the specifications might do as a theoretical guide but it is not practicable.

Q. I mean that eight horses on the end of a plough unless they all pull at once is not an eight-horse power?—A. No.

Q. Did you answer that question as to whether you had ever seen eight horses used in ploughing?—A. I just saw it there.

Q. You saw them there?—A. Yes.

Q. Some one has suggested that that was gotten up as an exhibition for your benefit?—A. I made the remark myself to the contractor at the time.

Q. You did, did you?—A. Yes, I made the remark to the contractor at the time, 'I suppose you have eight horses on for my benefit, because I happen to be here to see it.' And he said, 'No, I have been using them now and then.'

Q. Would it not be a proper occasion, if it is a proper test, to put on eight horses when the district engineer was about to see it done?—A. It would be.

Q. I mean if it is a test of any value the proper time to apply it if the material is in dispute would be when the Board's engineers are there to see?—A. Their answer was that they did it at other times, not only that, but the engineers in charge told me that they had eight horses on at other times.

Q. Well, are six horses used to advantage?—A. Six horses are better than eight.

Q. In this work?—A. And four horses are better when four horses could do the work.

Q. It is more easy to get the four horses to stand together and to work together and pull together, I suppose. Is the grading plough you speak of a larger affair, or does it differ from the farm plough?—A. It is practically made the same way, only a little larger.

Q. Is it stronger or heavier?—A. It is stronger too, but they have a great deal larger plough than this 10-inch grading plough.

Q. You speak of seeing them move 3 or 4 inches at the time you were there; could they move more or could you see them at other times moving more than that depth of this material?—A. I have seen them start with more, you know they will start a team, they have four or six good horses going, they will start a team with a plough and there will be a couple of men driving them, and when the team is starting they will take a certain depth and one man will jump on the beam of the plough to make it go down deeper, and the horses go probably 50 or 60 feet, and then they will stop.

Q. Why?—A. Because it is too hard, they are exhausted, they will pull up.

Q. Just as you will see a team stop going up a heavy hill?—A. Yes, and they will stop to get their breath.

Q. That is spoken of here by you or some of the other engineers; he says that when it is spoken of as material which could be moved by a plough having six or eight horses that it means that they will do a day's work?—A. Yes, it means that they will do it continuously, but if the team starts at work, a team of two, four or six horses, and if they are idle a large part of the time that is not ploughing.

Q. No, perhaps not. Well, after all, isn't it a question of judgment as to the ease or difficulty of moving the material? Can you apply a mechanical test of that kind that will be of any great value?—A. That is exactly what I maintain, that that plough test is not practicable.

Q. Unless it means that if it can be ploughed at all then you must classify it as common excavation, that would be the result, wouldn't it?—A. Well, if it can't be ploughed at all it will be returned as loose rock.

Q. I use the other illustration, if it can be ploughed then it is common excavation.—A. Well, if that can be ploughed, but if portions of it can't be ploughed that is where the engineer has to use his judgment.

Q. Supposing a portion of such cut or borrow pit could be ploughed by the means indicated in the specification and another portion of it could not, what would be the proper method of returning that cut?—A. If it was in a place where you could determine the different stratas it could be easily separated.

Q. If it be a simple case, for instance, if the lower half of the cut could not be ploughed and the other half could, it would be only a question of measurement?—A. It would be only a question of measurement, but take a borrow pit where it might be only two or three feet all over the borrow pit, and there might be layers where it is softer, and there are other layers that are hard, the only fair way of arriving at a just, fair and equitable estimate is by percentage.

Q. Now we come to your conclusion on this. What happened after that? You say you had a discussion with the division and resident engineers, what led up to

that?—A. It was that the subcontractors who were there were threatening to leave the work.

Q. Why?—A. Because they could not make, they were saying they could not make their board, they could not make their living.

Q. They could not make their living moving that material?—A. Moving that material at the price of common excavation.

Q. At the price of common excavation, yes, and——A. After discussing and watching the proceedings of the different gangs that were there over the whole distance——

Q. That is over the whole ten miles I would suppose you mean——?—A. Over the whole ten miles I came to that conclusion that it would be a fair and equitable thing to return 50 per cent common excavation and 50 per cent loose rock.

Q. Then you came to that agreement, as you say here, I take it the way it is put that was an agreement between you and the resident and division engineers?—A. To return it as such.

Q. Was there any agreement with the contractor?—A. Nothing at all, there was not a word with the contractors about it, and the Chief Engineer was informed of that immediately.

Q. Now we are getting to the point, you say you notified Mr. Lumsden of that, was that notification verbally, or in writing?—A. It was verbal, I discussed all these things with him.

Q. At what time?—A. The first time I came to Ottawa, afterwards in the fall of 1908.

Q. Another circumstance you speak of there, would it have been to the advantage of the work if the sub-contractors had left the work?—A. Certainly not.

Q. Was that an idle threat made, do you think, or do you think——?—A. No, I do not think it was idle; I suppose we could have always had other contractors, but it was towards the end of the season, and if they had stopped work that work could not have been carried on until the following summer.

Q. Was it desirable to keep these men there at the work?—A. Certainly, if the work was to be completed .

Q. Can you tell us if that figures in Mr. Lumsden's particulars, and what he says about it? Just tell us what, if he says anything about it, what it is he says and what the measurement of it is?—A. I don't think he has anything on that.

Q. Well, perhaps you had better look at that list; it appears on page 79 and the following pages of the evidence in this case. There is a reference to a borrow pit at station 1143?—A. That is not there at all. The place I mean is from mile 65 to mile 75, and that station you refer to is about mile 22. No, Mr. Lumsden went over that portion of the work with Mr. Woods, but he has not put it in any of these lists.

Q. It is not mentioned in these lists at all, you are quite sure of that?—A. I am quite sure.

By Mr. Moss:

Q. This ploughing and scraping he mentions in these lists has no reference at all to this borrow pit you are speaking about?—A. No.

Committee rose at 6 p.m.

April 19, 1910.

The committee resumed at 8.30 p.m.

Mr. S. R. POULIN's examination continued.

By Mr. Chrysler:

Q. Before leaving the subject of the materials at Wabigoon, which you say you decided to allow half loose rock and half common excavation for, was there any other

instance on the work in which you made that sort of an allowance for similar material, or was it only at that one place?—A. That was the only place where we made it uniform for that ten miles. That is the only place.

Q. Was there any other place where clay or similar material was allowed partly loose rock because of the difficulty of ploughing it?—A. Yes, there were some other places especially where clay was taken out during the winter.

Q. Where clay was taken out during the winter?—A. That is, it was in a frozen state.

Q. I will ask you about that presently; was there any other place, except the ten miles you have spoken of, where part of the clay was allowed as loose rock on account of its being difficult?—A. Well, it was indurated clay; it was returned as loose rock.

Q. You understand that definition includes indurated clay as loose rock, but it is coupled, as I understand, with the qualification that it must be too hard to plough? —A. Indurated clay is always too hard to plough.

Q. Is it always too hard to plough with the test that is made there, of a plough drawn by six horses, properly handled?—A. Portions of it might be ploughed, but it would not be a paying thing for any one to keep wearing their horses out in doing so.

Q. And then the answer you have given this afternoon applies to that; you would exercise your judgment and allow a portion of such material as loose rock?—A. Yes, I would.

By Mr. Clarke:

Q. But if you could plough it with six horses, without blasting, would you call that loose rock?—A. The specification does not require any blasting when the plough test is put on, you know. The plough test is sufficient to return it as loose rock; that is, provided that the clay is in such a hard state that six horses well handled cannot plough it, it is to be returned as loose rock.

Q. But is there not in clause 35 something else necessary? That is, if it can 'be ploughed.....without the necessity of blasting?'—A. Yes, if it can be ploughed without the necessity of blasting.

Q. Is it not common excavation then?—A. If it can be ploughed with six horses?

Q. Yes, and without the necessity of blasting?—A. Yes, but if it cannot be ploughed with six horses, that does not mean to say that you require to blast it, because when once it is blasted you don't require to plough it. You see, you don't have to blast clay before you plough it. Once it is ploughed it is shaken up, and then in working scrapers you don't use blasting at all. It is simply when clay is worked from the face of the cut; that you shoot it, you blast it to save picking, and the men use the shovel then; it is generally loaded with shovels.

Q. That is, after it is loosened up?—A. Yes, after it has been blasted.

Q. But suppose you cannot move it with six horses, do you blast then?—A. Well, not as a rule.

Q. How do you get it out?—A. Very seldom, if it can't be moved with eight horses—except that it is in a cut. You don't go into borrow pits.

Q. But in a cut?—A. Then it is blasted and taken off in cars and loaded with shovels.

Q. If you do not move it with six horses, as it is here, then you move it by blasting?—A. By blasting.

Q. Then is it considered that if six horses won't move it, it is so hard that it must be blasted?—A. Yes, that is the point.

By Mr. Chrysler:

Q. If I catch the point, you say that that would not be so in borrow pits; you

APPENDIX No. 3

would not blast in borrow pits?—A. No, we would not go into a borrow pit where it is so hard as that.

Q. You would look for another borrow pit?—A. We would look for another borrow pit.

Q. The difference in the condition is that a cutting has to be got out, no matter how hard?—A. Yes.

Q. But a borrow pit is a selected point?—A. A borrow pit is a selected point.

Q. And if it cannot be blasted there, you would look for some other place?—A. Yes.

Q. Perhaps, having said that, you could tell us why it became advisable to allow part loose rock for the borrow pits that you were speaking of this afternoon which could not be removed by the plough with six horses; that was not blasted, I suppose?—A. No, it was not blasted.

Q. It was really moved by the plough, only it was moved with difficulty?—A. With difficulty, and sometimes with eight horses.

Q. With the disadvantage of time and labour; that is the fact about it?—A. Yes, and sometimes with eight horses.

Q. Was it difficult or more expensive to find a suitable borrow pit that could with the ordinary use of the plough to get the material that you wanted?—A. Well, not in the immediate neighbourhood. It would have been too far for them to haul with scrapers.

Q. And what would follow from that? If your borrow pit had not been near enough to haul with scrapers did that add any expense as a condition?—A. Well, there is one point which would have to be explained in those cases, Mr. Chrysler. It is that, supposing that there is a big fill to be made up, and that we didn't get sufficient material to make up that embankment, then we would have to resort to temporary trestle with train fill, which would cost 52 cents per yard. Now, in taking a borrow pit that way——

Q. Composed of the sort of material you have been speaking of?—A. Yes, and where we have to allow a certain amount of loose rock, it gets below the train haul price and the work is done before the train gets there, and it is ready to——

Q. If the facts are as you have stated them, you really have a choice, which you exercise?—A. Yes, and it is cheaper in the end, and the work is completed by the time that we would get there with the track.

Q. You get the advantage of having the work done more quickly, having it done I suppose that fall instead of the next spring or summer?—A. Yes.

Q. And at a saving of expense?—A. At a saving of expense.

Q. Although it is costing more than it would have cost if you could have got borrow pits requiring only common excavation to move the material?—A. Yes, it would have, but the things don't exist in that neighbourhood.

Q. Then you referred to and anticipated the question I was going to ask about the allowance for frozen material. Were there cases in which earth, or material that would properly be classed as common excavation if moved in the open season, in summer, was directed or authorized by you to be allowed as loose rock or solid rock?—A. Not as solid rock.

Q. Because of being frozen material?—A. Not as solid rock but as loose rock.

Q. Under what circumstances was that allowance authorized?—A. That was general before I went up there. There was a circular issued by my predecessor, Mr. Hodgins, which had been sanctioned by Mr. Lumsden at a meeting of Mr. Lumsden and the district engineer in Kenora in February, 1907, and a circular was issued by Major Hodgins. I didn't know until after, but I interpreted the specification to say that when the work had to be done in the winter, under the engineer's instruction, that frozen material would be returned—could not be ploughed, had to be blasted, and had to be returned as loose rock.

Q. I think that instruction has already been put in——

Mr. CLARKE.—I think Mr. Lumsden said he allowed them solid rock when it was frozen on the outside.

Mr. MOSS.—No, loose rock.

Mr. CHRYSLER.—The letter printed on page 322 of the proceedings, Exhibit 59, is dated May 20, 1909, but it is not the same as the circular.

WITNESS.—I don't think this circular was put in before.

Mr. CHRYSLER.—No, we have not seen this before in this case.

By Mr. Chrysler:

Q. Then this is the circular to which you refer?—A. Yes.

Q. The date below is February, 1907, added in pencil?—A. I just added it on there. I have not got the copy but that is the memo. taken on the other side of the date that the discussion took place (February 8) and it was issued the next day.

Q. Ths is the circular signed by Mr. Hodgins and issued on District 'F' before you went there?—A. Yes.

EXHIBIT No. 105.

THE COMMISSIONERS OF THE TRANS-CONTINENTAL RAILWAY.

OFFICE OF THE DISTRICT ENGINEER.

Circular No. 124.

DIVISION ENGINEERS.

DEAR SIRS,—The following is a memo. of discussion, re 'Overbreak, &c.':—

Overbreak.—All slides, any overbreak caused by seams in rock, in fact, any overbreak which is unavoidable, or not due to misplaced holes or overloading. The above to be allowed as solid rock.

Classification.—Loose rock allowed for material overlying rock cuts which is frozen during the winter. This refers to actual amount of frozen material only.

Timber and Cement.—Timber and cement delivered on commissioners' property will be allowed for as material delivered.

Estimate.—Monthly estimates given to include slides or overbreak, as above mentioned, in fact to be as reasonable as possible especially when opening cuts.

Clay.—No decision arrived at relating to classification of clay. Refer to higher authority if dispute arises.

'(Extract from letter from G. A. Knowlton, Div. Engr., G.T.P., to W. E. Mann, Asst. Engr., Kenora, dated Feb. 5th.)

'Regarding the matter of overbreak. The practice I have used on the Lake Superior branch is as follows:—Where seam occur in rock cuts, extending and taking out all rock back of the slope lines for the safety of trains, the same has been paid for in full at solid rock prices. I do not consider that any standard percentage could be laid down on all cuts as they will vary, and the only way I see is for the man to use his own judgment, and see that his resident engineers are thoroughly posted in regard to the loading and shooting of all blasts in the cut. I will state further, however, that material taken from rock cuts in the shape of overbreak, where necessary to be used in embankment, unless it is very largely in excess, I have allowed rock prices. Other cuts where powder has been used excessively, and large overbreak has been caused from the same, rock prices have not or will not be allowed.'

Yours truly,

A. E. HODGINS,

Per J. A. Heaman,

District Engineer.

February, 1907.

Mr. PCULIN.

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'Memo. of discussion re overbreak, &c., District Engineer's Office, February 8, 1908.

Overbreak.—All slides, any overbreak caused by seams in Rk. in fact any overbreak which is unavoidable or not due to misplaced holes or overloading. The above to be allowed as solid rock.

Classification.—Loose rock allowed for material overlying Rock Cuts, which is frozen during this winter. This refers to the actual amount of frozen material only.

Timber and Cement.—Delivered on commissioners' property will be allowed for as material delivered.

Estimates (monthly).—Given to include slides or overbreak as above mentioned, in fact to be as liberal as reasonably possible, especially when opening cuts.

Clay.—No decision arrived at relating to classification of clay. Refer to higher authority if dispute arises.

(Original of this document is in the vault in District 'F' office.

Q. You told us just now that you found that such a circular had been issued before your taking charge of the work; so far as the frozen material is concerned, there are two sentences in this circular (Exhibit 105) which refer to the subject. On the first page in that formal circular, opposite the side note 'classification' we have this:—

Loose rock allowed for material overlying rock cuts which is frozen during the winter. This refers to actual amount of frozen material only?—A. Yes.

Q. Then you know that Mr. Lumsden spoke of that, and he seemed to think that earth, common excavation, had been allowed where the surface was frozen only?—A. The surface?

Q. Yes, the upper part, the part exposed to the air, and also the material below not frozen?—A. I don't believe Mr. Lumsden ever made any calculations to see whether he was correct in his statement or not. That is not what I understand, nor what the inspections were.

Q. What was the principle that you applied?—A. That the portion that was frozen was to be returned as loose rock.

Q. As stated in this circular?—A. Yes.

Q. Which you found had been issued by your predecessor?—A. Yes, but I didn't only apply to the rock cuts; whenever there were any cuts or any work that had to be done in the winter, whether it was rock cuts underlying or whether it was earth cuts, if it was earth cut to be rushed through that winter, my instructions were to return the material in the state and condition that it was at the time it was being taken out; and the Chief Engineer was perfectly aware of the position that I took in giving those instructions when the work had to be carried through.

Q. Did you give any instructions in writing?—A. No.

Q. You did not issue any circular like this?—A. No.

Q. But you instructed verbally?—A. I instructed verbally.

Q. And permitted your division engineers to allow for frozen material in earth cuttings taken out in winter?—A. Yes.

Q. Does that mean where you instructed or ordered or pressed them to do the work in winter?—A. To do the work in the winter. The work in the first winter that I was out there——

Q. That is the winter of 1907-8?—A. Yes, most of the cuts had to be opened up during that winter, whether they were rock cuts or not; the work had to be carried through, and I gave those instructions, and Mr. Lumsden, the Chief Engineer, knew perfectly well that I had given those instructions; I told him several times, and he always told me that I was perfectly correct in the position I was taking, that I was justified in doing so.

Q. I am not sure whether he states it differently; he says over and over again in his evidence that he authorized and intended that earth frozen should be allowed as rock where it was necessary to uncover a rock cutting—at the entrance, as he put it, to rock cutting; I am not sure whether he agreed that any excavation wholly in earth should be allowed; you say that was so?—A. Well, even if he did not give it specifically, the specifications, if the work has to be taken out during the winter——

Q. What is the clause in the specification to which you refer?—A. 35. When material cannot be ploughed it has to be returned as loose rock; and no sixteen teams of horses will plough frozen material—no sixteen horses will do it; it is impossible to do it.

Q. I suppose we need hardly ask whether the climate in that region is severe in winter?—A. Well, as a rule there are practically seven months during the year where the earth is frozen from two to three feet deep.

Q. The second page of this paper (Exhibit 105) contains what appears to be a copy of a memorandum of discussion held at the district engineer's office on February 8, 1907; of course you were not present at that?—A. No, that is six months before I was up there.

Q. This is part of the circular, apparently attached to it?—A. Yes.

Q. And it contains this further statement with regard to the frozen material:—

> Loose rock allowed for material overlying rock cuts, which is frozen during this winter.

That is exactly the same thing. Then:—

> This refers to the actual amount of frozen material only.

That seems to show merely that the subject was first discussed in the district engineer's office, and then the circular issued embodying the result?—A. Yes, those are the notes that were taken by the secretary there, and then it was put in the form of a circular issued——

Q. For the benefit of those who were not present?—A. Well, as instructions from the district engineer to the division engineers.

Q. Then that was your practice with regard to the frozen material excavated during the winter of 1907-8?—A. Yes.

Q. Was there any instance of it after that winter—1908-9?—A. There was very little, but there was some in 1909.

Q. Now, there is in this circular also a memorandum as to overbreak arrived at in the same time, and covered by the same circular:—

> All slides, any overbreak caused by seams in rock, in fact any overbreak which is unavoidable and not due to misplaced holes or overloading. The above to be allowed as solid rock.

And further down:—

> Estimates (monthly) given to include slides or overbreak as above mentioned, in fact to be as liberal as reasonably possible especially when opening cuts.

Those two sentences also are taken from the circular issued by Mr. Hodgins?—A. Yes.

Q. Did you follow this circular in regard to overbreak?—A. They do—the resident and division engineers had adopted the returning of overbreak before I went there based upon that circular, and they still so continued until the end.

Q. You did not change the practice that you found?—A. No; this circular had been issued after consultation with the Chief Engineer, and the district and the division engineers of District 'F,' and was the result of the conference which took place at Kenora. That embodied the views of the Chief Engineer as well as of the district

engineers, and this circular was issued and the engineers commenced to return the work according to that circular from the month of February, 1907.

By Mr. Smith:

Q. Whenever you speak of the Chief Engineer, you mean Mr. Lumsden?—A. Mr. Lumsden, the Chief Engineer at the time—the ex-chief engineer, I suppose.

By Mr. Chrysler:

Q. Now, did Mr. Lumsden visit the work while you were district engineer on 'F'?—A. Yes, sir.

Q. Of course, we know he was there upon the arbitration in June?—A. He was there before then, too.

Q. He was there about the beginning of June, 1909?—A. Yes, he was there previous to that. He was there from 25th February to 5th March, 1908; from the 29th May to the 10th June, 1908; from the 23rd October to 4th November, 1908; from the 17th April to the 27th April, 1909; and from the 19th May to the 23rd June; that was the time of the arbitration.

Q. How many times does that make, excluding the time when he went there with his fellow-arbitrators?—A. Four times, and one of those was when he went up with Mr. Woods, the 29th May to the 10th June.

Q. Now, how much work did he visit on those occasions?—A. On the 25th February to the 5th March he came up on special invitation to visit the Dutton cut at mile 132 for the purpose of arranging matters for the carrying out of that work day and night. That was the key to the whole situation. It was——

Q. One of the heavy pieces of work?—A. Yes.

Q. Was it in a strategical position?—A. Yes.

Q. Preventing the connecting of work east and west of it?—A. East and west; that was the point that was supposed to hold the laying of the track through at one time.

Q. That was the first of the dates you mentioned there?—A. Yes, that was shortly after I went up there, about four months after. I asked him to come up to discuss that point.

Q. Did he see any other place except the Dutton cut at that time?—A. No, that is the only place; especially to visit that point.

Q. Then the next visit was in April, 1908?—A. In May; from May to the 10th June. That is the time he went with Mr. Woods. That was the time of the Hodgins investigation. I was down here at the time.

Q. Mr. Lumsden and Mr. Woods made a visit to the work, but you were not with him?—A. No. He went up to settle certain cases of classification which had been objected to up to that time, from Canyon lake to the Wabigoon river, and he also visited the eastern portion of Pelican Falls, that first half mile cut.

By Mr. Moss:

Q. About 160 to 188?—A. Yes, station 160 to 188.

By Mr. Chrysler:

Q. Then the next visit?—A. The next visit was 23rd October to the 4th Novem- 1908.

Q. What part of the work?—A. He went over the whole distance from Winnipeg to the Winnipeg river, 115 miles. Portions of it were made on the train, and over the whole division 8 and a portion of division 7 we walked over the work—the work was all completed.

Q. Walked over the work?—A. Yes, the work was practically completed.

Q. Were you discussing then the returned estimates for the work?—A. Yes, he had the division and the resident engineers walk along with us and he got the quan-

tities, all he wanted. He got the statement of the classification, and he had the statement of overbreak given to him, and he never objected to any of it.

Q. Well, was he there for the purpose of revising it? Was that part of his work at the time?—A. No, but he was there as Chief Engineer, and he surely should have satisfied himself that everything was correct.

Q. He was examining at all events?—A. He was examining it.

Q. Examining on the ground?—A. On the ground.

Q. And estimates which were made up to that time and upon work which, so far as the excavation was concerned——A. Was practically completed.

Q. What stations would mark the crossing of the Winnipeg river?—A. It is mile 135; station 55.

Q. On the second series?—A. Yes.

Q. Where does that series begin?—A. Just commences about a mile west of the Winnipeg river.

Q. And numbers which way?—A. Eastward. That is mile 135. You see, going west there is another series there starting at zero and finishing at 610 right at the river. The series overlaps.

Q. Does it start at Superior Junction and run to the Winnipeg river?—A. No, it commences at some point west, about ten miles. It was a short piece where the chainage was broken. It is not continuous chainage. Mile 135 will identify it.

Q. I think we have only one more visit by Mr. Lumsden to refer to. That was in the spring of 1909, I think?—A. Yes.

Q. What date was it?—A. The 17th to the 27th of April, 1909.

Q. Were you there on that occasion when Mr. Lumsden was there?—A. Yes, but I don't think he was over the work, except—yes, he was over part of the same ground on Division 8.

Q. That is west—west of the Winnipeg river?—A. Yes.

Q. Well, then, you gave us in a letter, Mr. Poulin, a report of what took place when Mr. Lumsden and the other two arbitrators were appointed for the purpose of carrying on the arbitration, and I suppose that contains your views and impressions of what occurred then. It is dated June 22, 1909, and is already filed as an exhibit?—A. Yes. It is in the return to parliament (Sess. paper No. 42*a*), page 21.

Q. Then, on June 22, you wrote a letter describing the visit by Mr. Schreiber, Mr. Kelliher and Mr. Lumsden?—A. Yes, sir.

Q. Saying that they had gone over a distance of about 195 miles. I do not want you to repeat the statements that are contained in the report, but did you take part in the discussion as to the returns?—A. Not at all.

Q. Upon the estimates for the work?—A. Not at all. I was not consulted at all.

Q. Did you accompany the arbitrators?—A. I accompanied them as an ornament.

Q. You say that 'Division Engineer Richan and Messrs. McHugh and Phillips accompanied us and read the quantities and showed the cross-sections whenever they were wanted.' So that the information in the possession of your staff was furnished?—A. Yes. They read the quantities and showed the cross-sections.

Q. But neither you nor they were asked for any explanation?—A. No. The explanations were always taken in the evening as evidence.

Q. It was under those conditions that you made the statement which was submitted by Mr. Lumsden and which was also printed in the evidence?—A. Yes, sir. That was after we got through to Winnipeg.

Q. That was taken at Winnipeg?—A. At Winnipeg, when the whole trip was over.

Q. But as you were on the work and passing the different portions of it you were not asked for any explanation?—A. No. It was understood—Mr. Lumsden told me before the inspection started that there was to be no discussion or no explanation given at all on the work.

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By the Chairman:

Q. Did he say why?—A. No. He did not say why. It was a matter of arrangement between the arbitrators themselves, I understood.

By Mr. Chrysler:

Q. Well, do you adhere to the statements contained in that report?—A. Yes, sir, to every word of it.

Q. You state in that report that you were instructed by the Board through the engineer and the assistant chief engineer to rush the work to completion, and that is true, is it?—A. Yes, sir.

Q. Was there any change in your practice, or in your views, arising out of the sending out by Mr. Lumsden of the interpretation as to assembled rock which he issued in January, 1908?—A. There was no change practically from the interpretation that I put on the specification myself. There was a change as to the practice that I had been used to beforehand, working under different specifications; but the moment I arrived on the work, Mr. Lumsden asked me to send my interpretation and I sent it to him.

Q. Has that been put in, your original interpretation? I think not?—A. I don't know.

Mr. SMITH.—You might look, Mr. Poulin, at the letter dated November 8, 1907. We will put it in as an exhibit.

EXHIBIT No. 106.

Q. (Reads):—

KENORA, ONT., November 8, 1907.

'H. D. LUMSDEN, Esq.,
Chief Engineer,
Ottawa.

DEAR SIR,—

In answer to your request, your file 7787.

I have not yet had time to go over the estimates in detail. I returned here from my trip over the line on October 30, and it takes almost all my time to catch up to the correspondence, because I have to go through files of from 20 to 30 letters before I can grasp the subject in order to answer it.

I may say that in going over the line I took notes at every one of the cuts without passing many comments. I had detail sheet estimates with me, and in some cases I told the division engineers they had been rather liberal; in other cases I thought they had used a broom over the cuts to gather the earth. I was then using my judgment as I have been in the habit of doing on similar work during the last thirty years, without paying any special attention to the wording of the clauses referred to in your two letters, viz.: 34, 35 and 36.'

Those are the clauses of the specification?—A. Yes.

Q. And that letter was written a few weeks after you had arrived there?—A. Just one month after I had arrived there.

Q. (Reads):—

I must say my eyes opened out when I read them carefully, and I am surprised at the different ways in which they can be interpreted; so much so that I think it will require a well worded definition in order to enable us to understand plainly what is meant.

Take clause 34. Why has the word 'masses' been used, instead of the usual boulders or loose rock measuring more than one cubic yard? I maintain it can rightly mean 'masses of rocks cemented together,' which, in the judgment of the engineer may be best removed by blasting. Otherwise, loose rocks, measuring more than one cubic yard and up to two yards, moved by derrick without having

been first blasted, would have to and must be returned as loose rock and not solid rock.

Please bear in mind I am not saying I have acted, or intend to act, according to that interpretation, which I fairly believe is the only possible one to any one who has not been conversant with specification and practice under the same clause differently worded.

This is then supposed to be left to the judgment of the engineer, and it is borne out by the last two lines of clause 35, which say that although blasting may be occasionally resorted to, it shall still be classified as 'loose rock.' This I claim was put in to give the engineer a check over the contractors, so that they cannot claim solid rock every time they put in a blast.

The same clause 35 defines that loose rock may be removed by hand pick or bar, although the contractor may resort to occasional blasting. Still, the engineer in his discretion may return it as loose rock, but not so when blasting is absolutely necessary.

According to this clause, which gives power to an engineer to call cemented gravel (mark well, not cemented boulders) indurated clay and other material that cannot be ploughed, &c., loose rock.

It is not on account of the geological formation of a boulder, or of the different constituent ingredients which form the composition of these different materials which classifies them as loose rock; but it is due to the fact that their removal costs as much as that which has hitherto been classified as loose rock, when loose rock alone in the form of a boulder, one cubic foot upwards to 99-100 of a cubic yard was to be returned as loose rock.

If such is the case, then an engineer who is the judge upon the work, and has to use his judgment, cannot, if he wants to be logical and consistent, do otherwise than return as solid rock masses of cemented boulders which cannot be removed without blasting, and which are not covered by any other clause in the specifications than 34.

'Time is the essence of the contract.' You order a contractor to open a rock cut, which has two or three feet of earth and boulders stripping frozen solid to the ledge. How is an engineer to return that?

We have wet clay cut where teams after an hour's work will get mired, and five to ten horses could not stand to plough. How are we to return this?

There is nothing to cover these cases, and I could cite a great number of others.

The only thing, if I remember well, is that, at a convention of American engineers, gathered to discuss classification a few years ago, it was resolved that only three items, rock, loose rock, and earth, should be used; but it was also put forward by a majority present that when any material would arise on which the classification was not explicit, or which was not fully covered by the specifications, the engineer should classify it under the heading to which it belonged, from a computation of the cost of its removal.

As I said before, I did not act according to those views, but simply as I have been in the habit of doing in every case, and my notes on every cut were more to guide me when I looked into the details.

But from what has taken place I will now ask you, before I do anything or suggest any change in the classification to my division engineers, to send me in writing, in black and white, what interpretation you yourself put on these clauses; or else come up with Mr. Woods and we will thresh the thing out to a fine point at which we can all understand where we are at and when I will know what is required of a district engineer.

Yours truly,

S. R. POULIN,
District Engineer.

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Now that letter was written on the 8th November, 1907, and we learn from Mr. Doucet that the conference at La Tuque on District 'B' took place about the 25th of October, just preceding by two weeks the date of this letter, and that an interpretation was sent out by Mr. Lumsden, the first edition of it in September, 1907, and the finally revised edition in January, 1908.—A. It was sent out on January 14, 1908.

Q. Did you have any direct reply from Mr. Lumsden to this letter?—A. The only reply that I had was the circular issued on January 14, and an invitation to come to Ottawa for January 20.

Q. Did you have any reply to your request that Mr. Lumsden should come up with Mr. Woods to thresh the thing out?—A. No. I never had.

Q. Well, how far did Mr. Lumsden's interpretation, when it appeared in January, 1908, agree with the views which you put forward in this letter?—A. Well, it agrees so far as masses of cemented material are concerned. That is the interpretation that I said could be put on that clause 34 at the time. It covered that and it covered portions of the work upon which there had been some diversity of opinion before I went to Kenora.

Q. You received an invitation to come to Ottawa to see Mr. Lumsden in regard to——A. It was to discuss his letter accompanying the blue print diagram.

Q. We have no letter in these printed proceedings which is addressed to you. Have you got the letter?—A. No. I don't think I have the letter here, but I received it, anyway. I don't know whether it was a letter or a telegram. I know that I came down at any rate.

Q. You came down, and did you see Mr. Lumsden then?—A. I saw Mr. Lumsden on the 29th, we had a meeting.

Q. The 29th of——A. The 29th of January.

Q. And what took place then?—A. It was on account of the difficulty of measurements. The other district engineers and myself explained to Mr. Lumsden that where he insisted on measurements being taken, in a great many cases it was altogether impossible. It was not practicable, and that is the reason Mr. Lumsden supplemented his letter by adding at the bottom 'except where in the judgment of the engineer it is impracticable.'

Q. Where measurements are impracticable?—A. Yes.

Q. We had a letter dated January 30, following that meeting, from Mr. Lumsden to Mr. Doucet, which was put in as an exhibit. Mr. Doucet was present at that meeting, at least I suppose he was, he gave us an account of a meeting on the same date?—A. That is the very same meeting that I refer to. I was present there.

Q. The letter to Mr. Doucet has already been put in. He wrote a letter to you in the same terms?—A. Yes.

Q. The letter to Mr. Doucet is exhibit number 21 and it is to be found on page 161 of these proceedings. We will take a couple of sentences at the end of that letter. (Reads):—

> Measurements must be made and full notes be kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant, of rock or loose rock in boulders. In short, actual measurements shall be made of all classified material returned, and not by percentages, except in cases where measurements are impracticable in the judgment of the engineer in charge.

A. Yes, sir, that is right.

Q. That followed the discussion of the subject?—A. That followed the discussion.

Q. Which took place on the previous day, 29th January, 1908?—A. Yes, sir.

Q. Now, you wrote to Mr. Lumsden, you say, that measurement was in some cases impracticable. Can you tell us what the cases were which you placed before him as instances of its being impracticable to measure?—A. That is, supposing there

is only the face of the cut, and as the work is being carried on, especially in the winter months, that it is blasted out and they put a shot underneath by digging a hole in the form of a 'T,' or what they call a coyote. When that is blown up it is practically impossible to measure it.

Q. Why?—A. Because the material is all separated.

Q. By the blast?—A. By the blast. It is all disintegrated, loosened up.

Q. Well, you can tell something about it?—A. You can't measure it, but you can do it by percentage. That is a case where it is not practicable to measure.

Q. You can tell whether it is wholly or in part composed of boulders?—A. Boulders, and whether it is cemented together. You have the face to see.

Q. You have the face before the blast is taken out?—A. Yes, before the blast is taken out and you have the two sides after the shot has gone. There are always the two sides before they are trimmed. And then there is the material that has got to be taken out. You can see that as it is being taken out, because the engineer in charge is there almost daily.

Q. These are all the elements which assist the engineer——?—A. In forming an opinion.

Q. In forming his judgment. But what you contend, and did contend, I suppose, at the meeting on 29th January, 1908, was that actual measurement was not——? —A. Was not practicable.

Q. In the case of work done under those conditions. Now, you are speaking in all this evidence that you have just been giving with regard to assembled rock, are you?—A. Yes.

Q. Is there any difficulty in measuring and ascertaining the proper measurement of rock in ledges?—A. No. There is none whatever in the case of ledge, solid ledge.

Q. Has that been done upon District 'F' under your direction?—A. It has all been measured and cross-sections taken.

Q. That is, the ledge rock?—A. Ledge rock.

By Mr. Clarke:

Q. Before you pass from that. What became of your inquiry as to clay in which the horses would get mired?—A. There was no answer given to that.

Q. Well, after you met Mr. Lumsden was it discussed with him in Ottawa?—A. No, it was never discussed.

Q. There was nothing more said about it?—A. Nothing more said about it.

Q. What did you do about the matter then, how was this material classified?—A. Wherever it happened I believe they simply stopped and waited until it dried up, or else the cuts were taken out in the winter. In a great many places where the cut was worked from the face it might be ten or twelve feet deep and they worked it in cars or carts instead of using scrapers; and this cut, working from a face like that, in the winter can be passably dried. Naturally there will be a certain portion of the top which will be frozen.

Q. Was it classified as common excavation?—A. Not all. There would be certain portions of it classified as loose rock.

Q. Yes, but I mean the clay?—A. It would depend altogether upon the nature of the clay. The clay may require to be shot, and if it required to be blasted it would be returned as loose rock.

Q. That is what you call indurated clay?—A. Indurated clay.

By Mr. Smith:

Q. When did you begin engineering, Mr. Poulin?—A. In 1876.

Q. My friend, Mr. Chrysler, has covered the ground pretty fully, but there are a few points I would like to have you amplify. Would you tell us what railways you have been engaged on since 1876?—A. Well, from 1876 until 1880 I was working on the Canadian Pacific Railway under government work on the surveys.

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Q. Before you pass that, who was the engineer you were working under then?—A. In 1876 I was working with Mr. Lumsden.

Q. The ex-chief engineer of the Transcontinental?—A. 1876-1877.

Q. So that you know Mr. Lumsden pretty well, I suppose?—A. Yes.

Mr. MACDONALD.—You know him of old.

By Mr. Smith:

Q. You were then four years under Mr. Lumsden?—A. No, I was two years with him.

Q. Beginning in 1876?—A. And 1877.

Q. Those four years you were employed by the government in connection with the Canadian Pacific Railway, building?—A. Yes. After that I went with the dian Pacific Railway Company, and I stayed with them until 1888.

Q. That would be ten years more?—A. No, eight years altogether.

Q. You were with the Canadian Pacific?—A. Yes.

Q. During that time you were on construction work?—A. I was on construction work. First of all I was in charge of the locating, exploring and locating, until 1884; then I was on construction work from 1884 to 1888. I had charge of the residencies at first, and I was division engineer on the extension of the Canadian Pacific Railway from Sudbury to Sault Ste. Marie.

Q. When you were resident engineer had you the classifying to do?—A. Yes, sir.

Q. Then after that, continue?—A. Then I went down for two summers to South America and Brazil on railway work, location and exploration.

Q. What railway there?—A. Tocantins railway up the Amazon river; that was never built.

Q. You were surveying that river?—A. Yes, and coming back I went on the Parry Sound railway, the Parry Sound Colonization Railway, which was a part of the Ottawa and Parry Sound, and I remained on that until 1897.

Q. For whom were you acting as engineer then?—A. For myself at first. I was interested in the construction of the Parry Sound Colonization Railway. I was Chief Engineer of the Parry Sound Colonization Railway until they sold out to Mr. Booth.

Q. You were partly a contractor?—A. I was partly a contractor; I was Chief Engineer as well as looking after the engineering.

Q. Then?—A. Then I went out contracting for a certain number of years.

Q. Railway contracting?—A. Yes.

Q. What railways did you build?—A. On the Ottawa, Arnprior and Parry Sound, from Parry Sound this way, I built 70 miles on contract. Then I built the Pembroke Southern Railway from Pembroke to Renfrew.

Q. As engineer or contractor?—A. As engineer at first and then I took a contract. Then I went with the Canadian Northern, built a portion near Parry Sound in 1901 and 1902; in 1903 I was surveying a railway from Stratford to Lake Huron, and in 1904 I went with the Transcontinental Railway.

Q. In what capacity did you first begin for the Transcontinental?—A. As assistant to Mr. Doucet.

Q. Then you have practically had every kind of experience in connection with railway building?—A. I have had all kinds of experience.

Q. You said, I think, that you were a resident engineer. You had then the classifying to do?—A. Yes, sir.

Q. And I suppose that when you were contracting, or when you were interested in contracts you had also a very material interest in the classification?—A. Well, I had.

Q. You told us, I think, that you began in District 'F' about the 5th October, 1907?—A. Yes, the 5th or 6th October. I reached Kenora about the 6th, I think.

Q. In answer to my friend Mr. Chrysler, you said that your instructions were to hurry the work as much as possible?—A. Yes.

Q. As a matter of fact, before you went as district engineer on District 'F,' had not the date of the contracts expired altogether? The time within which the contracts were to be completed had already expired before you went there at all?—A. Yes, it had expired on the 1st October, I understand.

Mr. POULIN.—September.

Mr. SMITH.—So you went there under exceptional circumstances, Mr. Poulin; that is to say, after the date within which the contracts were to have been completed had entirely expired?—A. Yes, sir.

Q. What did you do when you went there first?—A. I went over the whole work in order to familiarize myself with the country, the state of the work and the condition in which the work was at the time that I arrived. It took me the full month of October.

Q. And then that brought you to the month of November when the questions had arisen regarding classification?—A. Yes.

Q. Up to that time you had very little, of course, to do with classification?—A. I had nothing to do at all on the Transcontinental. I did not know anything about what dispute had arisen. The first thing I knew was a letter received from Mr. Lumsden asking me to give him my interpretation of clauses 34, 35 and 36. First of all, I refused to give it to him. I did not know what he wanted it for. I thought it was due to me that he should give me his interpretation. Then I received the telegram and wrote him that interpretation.

Q. That is what you mean when you say that you had not answered his two letters. One of them was a telegram I suppose?—A. There were two letters. There was one first letter; I answered it; it was a personal letter in which I declined to give him my interpretation unless he gave me his first. Then, in the meantime, I got a telegram and I answered him that.

Q. Then your letter which Mr. Chrysler has read, being Exhibit 106, was the interpretation which you put upon these clauses of the specifications?—A. Yes. Previous to that I had not read the clauses carefully, because I have been on work about thirty years, and the specifications are generally always the same, nnd I never looked much at the specification of the railway until I got on to the construction.

Q. You had been proceeding according to your experience of practically thirty years?—A. Yes. There has never been any occasion upon which I would have to look up, whether I was right in my idea of the specification or not. It was only Mr. Lumsden's letter which made me look up these specifications and study them up.

Q. Am I right in supposing that in any railway contract there would be some difference of opinion among engineers and between engineers and contractors with regard to classification?—A. Not when the clauses covering such different items are plain enough and specific enough so that we can understand what is meant.

Q. In your long experience of thirty years, had you had differences with respect to classification?—A. No, because I never worked under specifications with those clauses worded the same way as they are worded in this specification.

Q. So that you were beginning your work assuming that this railway was to be built in the same manner and under similar specificatons as the numerous railways you had already worked upon?—A. That is what I went upon.

Q. And within a month from your beginning work this question arose before you had had time to go into the subject of classification at all with your subordinate engineers, and you gave your interpretation in reply to his two requests?—A. Yes.

Q. Then you had a consultation in Ottawa on the 29th January, 1908?—A. Yes, sir.

Q. You expressed your views then to Mr. Lumsden pretty fully?—A. Yes, I did.

Q. Did you cite from your long experience to him, the difficulties and impossibility of following out literally his instruction?—A. I cited to him—I explained to

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him that it was impossible, just about in the same manner as I have done so here to-night.

Q. First of all, before we come to this consultation, you wrote Mr. Lumsden on January 17, did you not?—A. On January 17?

Q. On January 17, a letter from which I will make this quotation:—

GENERAL SPECIFICATION.

I beg to acknowledge receipt of your interpretation of clauses 34, 35 and 36 of the general specification and your letter of instructions concerning the same. I may say that the classification on this district conforms pretty well to your interpretation; the only point is that measurements have not been actually made of all the classified material returned, but the percentage method has been adopted. It would be impossible to change the measurement in the cuts actually finished, and I doubt very much if there could be any great change even if we kept a man measuring as the cut was being taken out. However, I will in future instruct our division and resident engineers to conform to your instructions, copy of which I am forwarding to them.

A. Yes.

Q. This, of course, was still practically in the beginning of your work in District 'F'?—A. Yes.

Q. So that you were not referring to the classification for which you, as an engineer were in reality responsible, as the district engineer?—A. Well, when I went up there I had taken notes of the classification that had been done over the whole of the work that was opened.

Q. By the resident engineers under your predecessor?—A. Yes, but they gave me the returns that they had made up to that date, and I took notes of every one of them, and I was in position to answer Mr. Lumsden that the returns so far seemed to conform with his interpretation that he had issued, accompanying that diagram.

Q. Your predecessor was Major Hodgins. You succeeded him?—A. Yes, sir.

Q. And the classification made up to the date of your going there was classification for which he as district engineer had professional responsibility?—A. Yes.

Q. On the same day that you wrote Mr. Lumsden, that is January 17, you issued a circular to the divisional engineers under you in district 'F'?—A. Yes, sir.

Q. That has not been put in. I will read from that circular. We need not put it in as an exhibit; we will embody it in the evidence:—

Inclosed you wll find copies of the Chief Engineer's interpretation of clauses 34, 35 and 36 of the general specifications, together with blue print diagram in explanation of the same. I am only sending one copy of interpretation to those who have typewriters; to the others I am sending sufficient to give a copy to each of the engineers on your respective divisions.

You will please at once go over this carefully and say whether the classification on each of your respective divisions conforms with such interpretation. I fairly believe that it does. The Chief Engineer says that in future all classification must be in conformity with his interpretation, and measurements must be made and full notes kept showing such classification on cross-sections where rock or other classified material is met with in large quantities, or by measurements made by an assistant, of rock or losse rock in boulders, and that in short, actual measurements must be made of all classified material returned, and not by percentages. Of course, it will be impossible to change measurements where the cuts had been finished, but where it has been made by percentage up to the present time, it may necessitate in some places to have a man especially for the purpose. For the balance, I will see you shortly and will arrange for the best method to arrive at a close measurement in order to meet the views of the Chief Engineer.

You will please distribute to each of your engineers a copy of the said interpretation, as well as the blue print diagram.

Kindly acknowledge receipt.

That is dated January 17. That is the action you took immediately upon receipt of Mr. Lumsden's interpretation of January 14, 1908, in communicating the same to each of the division engineers, with provision for every resident engineer having a copy of those interpretations and those instructions?—A. Yes, sir.

Q. I am making this clear, Mr. Poulin, because you were one of the engineers that Mr. Lumsden subsequently lost confidence in. Now, on February 4 did you receive from Mr. Lumsden another communication?—A. Yes, sir, that was supplementing the one of January 14 with the last line at the bottom saying that after the discussion that took place in Ottawa he changed his opinion to the extent——

Q. What is the letter?—A. Dated January 30, received on February 4. There are two letters; one says that he inclosed the other.

Q. The letter that you refer to is identically the same letter as was sent by Mr. Lumsden to Mr. Doucet which has been produced as Exhibit No. 22 upon this inquiry?—A. Yes, it is exactly the same.

Q. Now, on the same day that you received that letter from Mr. Lumsden did you take some action; if so, state what?—A. Yes, I issued another circular to the divisional engineers on February 4, the same date I received the letter, in which I said, 'inclosed is a copy of new regulation——'

Q. You might just file that as Exhibit No. 107. Just read it and it will be put in as an exhibit in the evidence. Read the whole letter and it will be fyled as Exhibit 107?—A. (Reads):—

EXHIBIT No. 107.

Circular No. 252. ST. BONIFACE, Man., February 4, 1908.

Division Engineers—

Geo. Richan,
F. J. McIntosh,
A. G. McFarlane,
M. C. McFarlane,
N. B. McTaggart.

DEAR SIRS,—Inclosed is copy of new explanation of the Chief Engineer's interpretation of clauses 34, 35 and 36 of the general specifications.

You will notice at the end that rock, such as explained in item No. 5 of the diagram, can be dealt with as before, that is, in cases where according to the judgment of the engineer in charge measurements of the same are impracticable.

Yours truly,

S.R.P. S. R. POULIN,
Inclo. *District Engineer.*

A. That is, as they were in the habit of doing before the diagram was given, by percentage.

Q. Then you refer to that as the copy of the new explanation of the Chief Engineer's interpretation?—A. Yes, sir.

Committee adjourned at 10.15 p.m. until to-morrow.

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WEDNESDAY, April 20, 1910.

The committee met at 11.15 a.m., Mr. Geoffrion, Chairman, presiding.

Examination of Mr. S. R. POULIN, continued.

By Mr. Smith:

Q. You had spoken last night, Mr. Poulin, of your interpretation of the specifications as communicated to Mr. Lumsden in the letter filed as Exhibit 106?—A. Yes.

Q. Now, between the date of that letter, November 8, and the date of Mr. Lumsden's interpretation of January, 1908, was Mr. Lumsden in your district personally?—A. No, not at that time, not between those dates.

Q. Did you have any special communication with him on the question of classification between those dates?—A. No.

Q. You continued after your letter to classify, or rather to authorize the classification, as formerly?—A. Well, there were only three or four weeks, and the thing was practically left in abeyance until I had his answer.

Q. Was Mr. Lumsden aware of your views as to the meaning of clauses 34, 35 and 36 of the specifications previous to your writing that letter?—A. No, the subject never came up between us. I never had occasion to apply my views on any part of the work.

Q. Subsequent to the letter, had you occasion repeatedly to discuss the question with Mr. Lumsden?—A. Yes.

Q. And on the occasion of his visit to District 'F,' did you discuss the question of classification with him very fully?—A. Every time that Mr. Lumsden came up on District 'F,' the points in question—when he came up the first time it was for the special purpose of examining the Dutton cut and at other times when he came, the question of classification was always fully gone into. He was perfectly cognizant and conversant with my views on the subject. There was never anything hidden from him.

Q. As a matter of fact did you ever isssue any orders or give any instructions to the engineers under you without first communicating with Mr. Lumsden?—A. The instructions that I gave were always, as a rule, embodying Mr. Lumsden's own instructions. If I gave any special instruction in cases of urgency, I immediately communicated to Mr. Lumsden what I had done.

Q. The first visit that Mr. Lumsden made to District 'F' I think you told Mr. Chrysler?—A. Yes.

Q. And that was between February 25 and March 5, 1908?—A. Yes. It was to settle the matter of work in the special cut at mile 133. The contractors were going to close the work on account of the difficulties that they had to encounter in the taking out of that cut during the winter months. They were working it from the face, and it was the key to the whole situation, and Mr. Lumsden came up to look at it specially, and it was there agreed that he would recommend that a special price be paid for a certain portion of the cut provided that the contractors kept a sufficient force, a sufficient number of men at work day and night, to ensure the completion of that cut in time so that the laying of the track would not be delayed. I made a statement to Mr. Lumsden; he asked me to make a report; and he agreed that he would recommend to the commissioners that the sum of $1.25 per yard would be paid to the contractors for that portion of the cut.

Q. Let me interrupt you; Was that a price that was not mentioned in the contract at all?—A. The cut was considered as outside of the general pale of the contract, you might say. It was an exceptional case, because it was the bed of an old water-course, and the water kept running in the whole time, and there was continually a foot or two feet of ice every morning on the top of the cut.

Q. Now, as an engineer of long experience, Mr. Poulin, what do you say as to your own knowledge, your own opinion of the exceptional difficulties the contractors had there?—A. Well, it was not covered by the specification at all; the portion of the work in the winter that way did not come under any of those three clauses; I did not consider that at all, and Mr. Lumsden authorized me to tell the contractors that the special price would be paid for it; and the men were kept on, the work was taken out, and they were put to a good deal more of expense, and unfortunately—

Q. How much, do you know?—A. Well, the difference would amount to between $18,000 and $20,000; and Mr. Lumsden left, resigned, without doing anything, sixteen months after the authorization was given.

Q. Sixteen months after?—A. Yes.

Q. There was nothing done during that sixteen months?—A. No, and I repeatedly asked him; so that it left me in rather a queer position in the face of the promises I had made; and more than that, I find that although the whole of the correspondence is in the office, he has left no record by which he says that he would—well, that a new chief engineer would be justified in continuing the arrangement which had been promised by Mr. Lumsden.

Q. And the contractors have not been paid for that?—A. The contractors have not been paid. I thought it was very unjust to me as district engineer.

Q. What do you say as to the engineers that were under your care, your jurisdiction, as district engineer there—the division and the resident engineers?—A. The division and resident engineers, they were all good men, the division engineers especially, and the resident engineers. I didn't know any of them before I went there except two of the division engineers that I had previously on work; but they have all been very satisfactory to me.

Q. Were they all members of the Canadian Society of Civil Engineers?—A. I don't know that they were all members, but I think they are all members by this time, because I know that a great many have been admitted to the Society of Engineers since.

Q. On the occasion of Mr. Lumsden's stay, examining this special Dutton cut, will you tell us what was done generally on the subject—was any conclusion reached as to classification generally?—A. The only conclusion that was reached there was that he would allow a uniform price for all material outside the ledge rock and rock which measured over a yard in boulders.

Q. That was with respect to that particular cut?—A. With respect to that particular cut.

Q. But you said a while ago that you discussed very fully the whole subject of classification; now, I suppose he examined some other cuts than the Dutton cuts?—A. Not that trip.

Q. He did not?—A. No, he just went into that cut and came right out.

Q. And then he made the special arrangement with respect to that exceptional work, but did not go into any of the other cuts?—A. Did not go into any of the other cuts. But I told him there and then, there were probably a dozen more cuts which were being worked in the winter, which were nearly as bad as that one; I had told him that.

Q. And as far as this first visit of Mr. Lumsden is concerned—that is the first while you were there—we may take it that nothing further was done and no practical conclusion arrived at, with the exception of making an arrangement of a special price for that cut?—A. For that cut.

Q. Then I think you told Mr. Chrysler that Mr. Lumsden visited a portion of your district, that is divisions 6 and 5, from May 29 to June 10?—A. Yes.

Q. How long was he there?—A. Well, he was there between those dates. I was not with him. It was during the time of the Hodgins investigation, and I was in Ottawa here myself.

Q. You were not there with him?—A. No, but he went up there with Mr. Woods purposely to settle questions and objections which had been raised by the Grand Trunk Pacific district engineer.

Q. I understood that was the portion of the work on which the principal objections were made by the Grand Trunk engineer?—A. Yes, it was.

Q. You can't tell us just how long he remained, except it was between those two dates—May 29 and June 10?—A. Iknow that he went over the work. I subsequently found out from the resident engineer and the division engineers that he went over the work from Summit Cut at Canyon Lake to the Wabigoon river, a distance of about 11 miles.

Q. As you were not there, you naturally cannot say what was done on the spot; but will you tell the committee what Mr. Lumsden did as a result of that visit?

Q. When Mr. Lumsden came back to Ottawa he complained to me that the engineers were not keeping their notes as he wanted them, that they had not measured the boulders, and that the cross-sections did not show the assembled rock. Well, I took the matter up with the engineers in question, and they all subsequently, the week following, came down—Mr. McIntosh, Mr. Bell and Mr. Miller came to Ottawa. I took up the matter with them, and they said that Mr. Lumsden did not understand them well; that they had sufficient notes, only that they were not put on the cross-sections. They showed him the original cross-sections, but as the cuts were not finally measured, they had not put the notes on the cross-sections, but they had sufficient notes to put all the information on the cross-sections; and I sent Mr. McIntosh and Mr. Bell and Mr. Miller into Mr. Lumsden's room, in his office here, and they gave him personally that explanation in his office here in Ottawa in the subsequent week after his return.

Q. Now, Mr. Poulin, did you verify their statement that they had sufficient notes? Did you examine their note-books and did you verify their statement that they had information?—A. Not at the time, because they came down to give evidence in the Hodgins investigation, and as Mr. Lumsden had just complained in Ottawa to me, I took up the matter while they were here, and they hadn't their note-books or their cross-sections with them, but subsequently they showed it on the cross-sections.

Q. Well, as far as Mr. Lumsden's objection—that their notes upon the cross-sections did not give the information that he thought they should have given—that would be one thing, and that would be a question of engineering duty; but what I want to get at is this: What did he do with respect to the classification itself? with regard to the fact of the classification?—A. He never complained to me, never said a word to me about the classification. In fact, I took it for granted that when he had been there with Mr. Woods, that all difficulties had been settled. That is what he went up there for.

Q. And did you hear anything more about it after that?—A. I never heard anything more about it until his trip over the line with the arbitrators, about those portions.

Q. Mr. Lumsden never informed you that he was dissatisfied with the classification—that he thought it wrong?—A. That is the only thing that he told me— that the engineers did not have their notes; they did not show on the cross-sections where the assembled rock was; and the engineers explained to me that it was because the final cross-sections were not made.

Q. But of course it will occur to you at once that the classification might have been absolutely right, absolutely true, and they might not have had any notes at all; their having notes was something different from the fact; and you tell me that Mr. Lumsden after that investigation with Mr. Woods never told you that he was satisfied or dissatisfied as to the classification?—A. Never did, as to classification.

Q. Now, does that exhaust that visit? Was there any other result or were there any other fruits from that visit?—A. Well, there was no other result as far as those particular points were concerned.

Q. No new instructions were issued?—A. No. That is, excuse me, you mean no new instructions issued by Mr. Lumsden?

Q. Yes?—A. None by Mr. Lumsden, but I took occasion to see the engineers and questioned them to see that they kept their notes in proper shape so that no question could be raised.

Q. Then the next visit of Mr. Lumsden was from the 23rd October to the 4th November?—A. Yes.

Q. He then went from Winnipeg to the Winnipeg river?—A. Yes.

Q. That is about 115 miles?—A. Yes.

Q. You accompanied him then?—A. I accompanied him then.

Q. And who else went with you?—A. Mr. M. C. McFarlane, the division engineer of division 8, and the resident engineer, Mr. Earl, on his residency, and then Mr. Blackwell, on the next residency, and Mr. Harrison, on the next one, and Mr. Willett.

Q. Did Mr. Lumsden ask for explanations from all those engineers?—A. Wherever he required them the engineers had all the cross-sections and all the quantities that had been returned up to that time. Except a few cuts the work was practically finished.

Q. Am I right in understanding that that was a portion where there was very considerable overbreak?—A. Yes.

Q. Did Mr. Lumsden take up the question of overbreak with you and with the other engineers?—A. He took up the question when the quantities were given to him, and the only comment I heard him say was that it was mostly all unavoidable, coming through cuts, this overbreak, looking at the different way that the stratas were lying; 'well,' he said, 'this is unavoidable; they couldn't avoid this.' That is mostly all the remarks he passed.

Q. You went with him personally over that whole distance?—A. Over the whole distance.

Q. And he went through all those cuts?—A. He went through all those cuts, and saw all the work from one end to the other.

Q. And the opinion he expressed to you in the presence of the other engineers was that he thought it mostly unavoidable?—A. Mostly unavoidable. A good many times he happened to be walking with one of the engineers, and some other time with myself, and certainly if there was any fault to be found he should have said it there and then.

Q. Are you able to say whether Mr. Lumsden had as much information then—that is, October 23 to November 4—with regard to overbreak as he had later, in April 1909 and June, 1909?—A. Well, I couldn't say whether the total quantities were all separated, and whether he asked for such information for all the cuts, but it certainly was given to him in some cases, and he could have got it by asking, because the resident engineers were there with their quantities.

Q. Let me put the question in another way, Mr. Poulin. Would Mr. Lumsden be in as good a position, or in a worse or in a better position at that date, than he would nearly a year later in examining the same work, to determine whether the overbreak was unavoidable or not?—A. Well, as far as the work and the appearance was concerned, he was just in as good a position.

Q. Was he not in a better position? It was a shorter time?—A. It was a shorter time in one sense. He walked over the whole of it, but he could have got more information, because we were all there ready to give it to him, and he could have got all the information that he wanted; while, when they went over as arbitrators they didn't ask a single question on the work.

Q. Now, is there anything to add to that visit? Was there any other result from that visit, that is, the visit from October 23 to November 4? Did it result in any-

thing further? Were instructions changed? Was anything done by Mr. Lumsden as to the result of that visit?—A. No, there was nothing changed, but during that visit, Mr. Lumsden was thoroughly aware of the position that I took, and the way of returning classification, and the whole matter was discussed with him with regard to frozen material, and that my instructions to the engineers were to classify the work according to the time and circumstances during which it was being taken out.

Q. I think Mr. Lumsden in his evidence practically said he made no complaint with regard to frozen material?—A. Well, that was one of the great points that was objected to by the arbitrators. They would not take into consideration the fact that the work was carried on in the winter, because they said that the contractor was behind his time.

Q. While you are speaking of that, what is the difference in cost to a contractor, of the work done in winter or in summer? Supposing you order him to go on and do a certain work in the winter, tell us whether the contractor will make anything by that?—A. You mean if I order or if the district engineer orders a contractor to take certain cuts of mixed material or even sand, if it is in a frozen condition?

Q. Yes, and you allowing loose rock for it, for what is actually frozen?—A. Well, it is simply this, the contractor does not make any more, or even as much money at those prices as if he was delaying until the following summer, and doing it for common excavation during the summer months, because it is more costly to take out frozen material than it is to take out common excavation, and the difference in the price between loose rock and common excavation just about equalizes the difference in the work that there is in taking out a cut.

Q. And of course every delay that there is means a loss to the country of interest on the whole expenditure of the road, doesn't it?—A. Certainly it does.

Q. With respect to overbreak, did Mr. Lumsden in some places examine the formation of the rock to determine whether they could say exactly how much rock could be moved by a blast, and so on?—A. I don't know that he did specially with that view.

Q. The general observation was that he thought it was unavoidable?—A. Yes.

Q. Now, when was the next visit of Mr. Lumsden?—A. The next one was in April, 1909.

Q. From the 19th to the 26th April?—A. Yes, he came to Winnipeg and we went on the train as far as the Winnipeg river, east again.

Q. About how many miles?—A. That is practically over the same ground. That was mostly to see the work of the steel bridge over the Winnipeg river.

Q. The subject of overbreak was gone into again on that occasion?—A. Well, not as much as previously, but we went on the train over the distance. The track was laid as far as the Winnipeg river by that time.

Q. What remark did he make about overbreak then?—A. Well, I don't think the question came up there at that time.

Q. Did that visit result in anything?—A. The visit resulted in making some allowance to the contractor for the steel superstructure of the bridge. It was not with regard to classification at all.

Q. But did you discuss classification again whenever you met him?—A. Well, whenever I met him the subject always came up, whether it was in Ottawa here, or in my office in Winnipeg, as a general rule. I always kept him fully conversant with what I was doing.

Q. On that occasion in April, 1909, when you went over it, did Mr. Lumsden express any want of confidence, or did he condemn your work? Did he express any dissatisfaction?—A. No, he never did. The matter was discussed as to when the arbitrators should come up. I told him that they could not very well come up before the month of May, on account of the condition of the winter, the spring was very late.

Q. Now, whenever the Grand Trunk Pacific engineers objected to the classification, and their objections were communicated to you, what did you do?—A. Well, I always sent an explanation to Mr. Lumsden. The objections came, as a rule, from Mr. Lumsden himself; they had been sent up by Mr. Woods; and I always gave an answer to Mr. Lumsden in writing, an explanation in writing, for every one of those objections.

Q. And you did so immediately on receiving the notice of the complaint?—A. Yes, and if there was anything special—if I had to wait to get explanation from the divisional engineers—I got it immediately, and it was always within a week; Mr. Lumsden always had the answer within a week or ten days, a thorough explanation of the objections raised by the Grand Trunk.

Q. Who was the Grand Trunk engineer there?—A. Mr. W. E. Mann.

Q. Now, I don't want to ask you particularly as to your relations with Mr. Mann, but your relations were not particularly friendly personally—you were not intimate friends at all?—A. We were not very intimate friends.

Q. And I think you said on one occasion that Mr. Mann was rather diligent in criticising what was done on that district?—A. Yes, there was a certain amount of animosity between the engineers on the work there and Mr. Mann, and that was thoroughly explained to Mr. Lumsden by myself. I don't know how it originated, but it did exist as a fact.

Q. At all events you are pretty well satisfied that there was no understanding between Mr. Mann and the engineers under you?—A. Certainly not; it was a misunderstanding.

Q. Mr. Mann was very severe always in criticising everything that was done?—A. I always thought that he was rather biassed in his opinion, and I told Mr. Lumsden so.

Q. At all events whenever an objection was made by Mr. Mann, which came through Mr. Woods to Mr. Lumsden and then to you, you always dealt with it immediately and made the explanation in writing?—A. Yes, sir.

Q. Did Mr. Lumsden find fault with these explanations? Did he say they were insufficient?—A. No.

Q. Or that they were incorrect?—A. No. I never heard anything more about them. It seemed to have closed the case.

Q. So you were left under the impression that the explanations you had made—A. Were sufficient.

Q. Were accepted as sufficient and satisfactory?—A. Yes.

Q. I think that brings us up to the arbitration visit by Mr. Lumsden. There was no other visit until the date of the arbitration visit?—A. No, sir.

Q. And your participation in that was not very extensive?—A. Not very. Only to the extent that I accompanied them.

Q. Did they ask for explanations, did they give you an opportunity of explaining things as you went along?—A. No they did not. They did not ask me for any explanation until they arrived at Winnipeg, except as I said in my letter to the commissioners that once I tried to put in some arguments and I was told that it would not be tolerated. After that I kept at a respectable distance.

Q. You put your views clearly in that letter to the commissioners?—A. Yes.

Q. That it was your opinion that such an examination was not sufficient to form any opinion upon it?—A. Yes.

Q. Such an examination as the arbitrators were making?—A. Yes, that was my opinion, and it is so still.

Q. And we might refer to your letter for your opinion more amply expressed on that question?—A. Yes.

Q. And have you anything to add to that letter?—A. The only thing I might add is this: that almost every evening I used to discuss the matter with Mr. Lumsden privately while the arbitration was going on, not on the work itself but when we were

at the different camps. I always repeated then what he knew beforehand, the position I took, and he always told me right there and then: 'From your point of view you are all right, your position is all right from the view you have been taking, and that you have been carrying out, but the arbitrators will not allow that.' That was his answer to me two or three times during the trip, and he cannot gainsay that.

Q. I will have to ask you a question or two on that. You spoke of the position you were taking. What was that position?—A. That was returning the material in the state and condition in which it was when being taken out. If it was in a frozen state to return it as loose rock.

Q. And also, I suppose, following the interpretation of January, 1908?—A. Yes.

Q. You had given your interpretation in 1907?—A. Yes. It was following that.

Q. It was following that. Now, from 1907, when you wrote your letter of November 8, giving your interpretation as to what had always been your method in the past and what you were then doing?—A. Yes.

Q. From 1907 to 1909 were you ever told by Mr. Lumsden: 'You are all wrong, you must stop this'?—A. No. I never was.

Q. Did Mr. Lumsden accept or acquiesce in your views?—A. Well, the fact that he acquiesced in my views was the issuing of his blue print diagram, not only in my views but in the views of other district engineers.

Q. On those occasions when you met him in the evening during the time the arbitration was going on and he said: 'You are right from your point of view, but they won't allow it,' meaning the arbitrators would not allow it—A. That was specially as to frozen material being returned as loose rock.

Q. Did he tell you you were wrong?—A. No. He said I was right from my point of view.

Q. That might mean you were wrong. You might be right from your point of view, but your point of view might be wrong?—A. No. He was aware of the fact for over two years, in fact he had been since the circular was issued by my predecessor with regard to that point.

Q. But was your point of view Mr. Lumsden's point of view also?—A. It was his point of view, otherwise how could he tell me that I was right?

Q. Well, the arbitrators took some evidence from you?—A. Yes, sir.

Q. On the occasion of this arbitration, which is to be found on page 104 of the proceedings of this committee, you told Mr. Chrysler that you wished them to go to your offices in Winnipeg, where you could refer to all your papers, but they insisted in examining you on the car?—A. I don't know whether I told that to Mr. Chrysler, but such was the case.

Q. No, Mr. Lumsden when asked here if there was anything in your evidence taken before the arbitrators that he would criticise, after reading your evidence over, said: 'I have read it over, I don't think he should have given instructions about fifty per cent clay and fifty per cent rock, if he did so—where fifty per cent clay should be classified as loose rock." That is what he singles out of your evidence presumably as the statement which caused him to lose confidence in you. I think you have explained that pretty fully, haven't you, to Mr. Chrysler?—A. Yes. I might say further that Mr. Lumsden knew that I was doing that since September, 1908. I told him that in his own office here, and I explained to him the whole circumstances. Why did he not tell me there and then that I should not do so if it didn't meet his view?

Q. He would sanction tacitly what you were doing, then when the time of arbitration came he didn't recollect what he had been sanctioning?—A. I gave him full explanation at the time. In fact, he was perfectly cognizant that that had been going on for eight or ten months.

Q. Now, without reference to Mr. Lumsden, what do you say as to the work you did, the work itself?—A. The work that I did I was perfectly justified in doing, and I will stand by it against any one. That is, that I was right in doing it.

Q. Was there any advantage given to any contractor?—A. Not at all. The advantage that accrued from it was the fact that the work was done at once. Otherwise it would not have been done. In some of these fills we would have had to resort to temporary trestles and train fills. That is the point. The engineer on the work has got to be the judge of these circumstances.

Q. To put the question plainly—you know of course the responsibility of your position now, and making your statement with the solemnity of an oath—with respect to the matter that Mr. Lumsden there complained about, the classification of the clay, are you able to say whether the country got value for every yard for which it paid?—A. It did for every yard. For every cent that it paid it got the value.

Q. Now, in our evidence, Mr. Poulin, at the foot of page 104—?—A. Yes.

Q. You are asked a question (reads):

> 'Q. Do you know by whose directions, or by whose authority your engineers made cross-sections of the cutting or parts of the cuttings showing ledge rock where none existed? Have you been aware that such was done?—A. I have been aware that a certain amount of solid rock was returned where there was no ledge rock, and I certainly took occasion to send down my assistant several times to look into the matter.'

A. That means that there was assembled rock where there was no ledge rock. I have been aware that there was a certain amount of solid rock—which should read assembled rock—returned where there was no ledge rock.

Mr. CHRYSLER.—Yes, that is what struck me in reading your evidence over just now.

The WITNESS.—That is what it is. Mr. Schreiber in his question says 'by whose authority your engineers made cross-sections of the cuttings or parts of the cuttings showing ledge rock where none existed? Have you been aware that such was done?' My answer was, 'I have been aware that a certain amount of solid rock'—which should read assembled rock—'was returned where there was no ledge rock.' Simply that the engineer had not determined the line, or had not shown the line, of demarcation on the cross-section correctly.

By Mr. Smith:

Q. Now, in answer to a further question (reads)—

> Q. Are you now aware that ledge rock was shown on cross-sections where none existed?—A. I can only say that I am aware of what has been done in the present inspection; that in some cases, they have returned ledge rock where none was to be seen. Whether it was due to the fact that there may have been assembled rock right over, I am not prepared to say.'

Did that relate to work that had been done before your going there or since your going there?—A. It related to some parts of the work that had been done since I went there. That was in places where there was probably a foot or two of stripping on top of a rock cut. In some cases it was all shown as rock.

By Mr. Moss:

Q. Shown as all ledge rock?—A. Very often the stripping where it is a foot or two feet, where it is assembled rock on top, it was simply shown as all solid rock.

By Mr. Smith:

Q. You are asked the further question (reads)—

> Q. Are you aware of the cross-section showing ledge rock where no ledge rock existed?—A. I am aware that in some cases ledge rock is shown on cross-sections where ledge rock did not exist.

A. Well, that is exactly the same, that there are a few cases where the rock was shown right up to the top and there was a foot or two feet of stripping.

APPENDIX No. 3

Q. Then another question (reads):

Q. I am asking you whether ledge rock was shown on cross-sections where ledge rock did not occur and where assembled rock was shown?—A. As to assembled rock, I am aware of it, I would not swear to every point being that way.

Q. When were you first aware that your engineers made cross-sections showing assembled rock in the cuttings where none existed?—A. This is the first time I was aware. I never had any occasion to suppose the contrary.

Did you understand the question there?—A. Yes. That is what I referred to in my letter to the commissioners, there are a few points that want to be adjusted. There are a few cases where, I think, on account of the fact that the resident engineer had lost his notes during a fire, the cross-sections were not quite what they should have been in my opinion in the first ten miles, because although he had the original cross-sections which were sent back to him from my office in St. Boniface, his notes did not—well, to a certain extent in order to try and do exactly as the instructions were to show everything on the cross-sections, he plotted some of his cross-sections by memory from the notes that he had lost in the fire, that is, what he had seen on the work; and there were a few places which did not appear to me as correct. That is, assembled rock was shown higher up than it should have been in one or two places.

By Mr. Moss:

Q. Is it possible to show the assembled rock on the cross-section exactly as it occurs in nature?—A. It is very difficult, especially if the work has been carried on by blasting.

Q. It is impracticable, is it not?—A. Yes, it is.

Q. Unless the whole cut is assembled rock?—A. Yes. I want to explain that a little too. Sometimes there may be assembled rock in the cross-section. Now, in taking the notes the arbitrators did not always have the exact station. Very often no exact station can be found for a couple of hundred feet, so you would have to step it out and get the place more or less accurately; and it was one of the points where I said, 'I am not satisfied with the examination that was made.' That is one of the cases in which the stations where the original cross-section was shown from, was not at the same point. It may have been five or six or ten feet away.

By Mr. Smith:

Q. That would destroy the value of the whole thing?—A. It would to a certain extent. That is one of the reasons why I say I was not satisfied myself.

By Mr. Moss:

Q. How are these stations indicated on the ground? Are they staked out?—A. They are staked out.

Q. Staked out every hundred feet to indicate the station?—A. But very often—in fact most of the time—they have got to be replaced over again four or five times during construction.

Q. As the level is reduced?—A. No. The men would blow them out or take them away. Therefore they have got to be run over again. In a good many cases they had not been run over, and it was difficult to get at the exact station. They got it as near as possible but very often it might make a difference in the cross-section.

By Mr. Smith:

Q. Well, the only thing that Mr. Lumsden seems to have selected from your evidence is the question of clay. Now, this question of assembled rock that you and the chief split on from the first—you, together with all the other district engineers?—A. Yes.

Q. And of course you have perused the opinions of the various counsel who gave opinions on the question of the interpretation of the specifications?—A. Well, I have lately. I had not done so before.

Q. And you have seen that the consensus of opinion agreed with your views as expressed in your letter of November 8, 1907?—A. Yes, sir.

Q. As far as this reference here to assembled rock is concerned, that was really the question that was dividing you all the time that called for the interpretation of January, 1908. It was always the same question?—A. That was the same question.

Q. Will you say what your view is as to the blue print that Mr. Lumsden attached to his interpretation of January, 1908?—A. Well, I gave my views pretty well to the arbitrators themselves.

Q. Just say whether it would be a guide to any young engineer classifying?—A. I think I told them that the blue print diagram was worse than what the specifications were, that it was more confusing to a young engineer.

Q. For what reasons?—A. From the fact that it did not give any scale and that the diagram did not show what size the rocks were to be or what space there was between.

Q. Were there any other instructions given except the letter of the 30th January?—A. There was nothing except the letter of the 30th January.

Q. And that was where measurements were impracticable, they would have to go by percentage.

Q. By percentage?—A. Yes.

Q. Now, upon that question of percentages, you told us that you had had experience on various other railways and particularly on the Canadian Pacific Railway, that you were a resident engineer for a while on the Canadian Pacific Railway. How was classification of similar material done by you and by the other engineers on the Canadian Pacific?—A. It was all done by percentage at that time, except the individual large pieces of boulder, if they happened to be alone, were measured.

Q. Could it be done otherwise? Is there any other means known to engineering science that would enable you to measure accurately this massed material or assembled rock?—A. I don't know of any. I would like very much to be informed of it.

Q. Was it ever done on the Canadian Pacific or any other railways you have been on?—A. There was never any such thing as massed material on any work that I was ever connected with before.

Q. Not in the specification?—A. Not in the specifications; this is something new.

By the Chairman:

Q. You say you served under Mr. Lumsden on the Canadian Pacific?—A. I served under him in 1876 and 1877 and 1885 and 1886.

Q. What was his mode of procedure with regard to classification?—A. There was no massed material then. It was simply solid rock in ledges and solid rock in boulders measuring over a cubic yard.

By Mr. Moss:

Q. Did you meet this physical material which you found here?—A. No, not in large quantities.

Q. Not in any large quantities?—A. No.

By Mr. Smith:

Q. Now, Mr. Poulin, you have kept photographs very systematically, I understand, of the work as it has been proceeding?—A. Yes, I have quite a collection.

Q. There are some of those photographs which I saw this morning that I think the committee ought to see as illustrating the progress of the work, its appearance in the early stages and the appearance of the same cut later; and also some of the

photographs illustrating what assembled rock is and how it is found. I think if you would show those they would be very valuable?—A. All these pictures are the same cut in different stages. I now file (as Exhibit No. 108) six photographs taken upon Residency No. 24, mile 59, District 'F,' and I have in typewriting under them whether they are looking east or west, and they will indicate the difference in appearance between the cutting shortly after the material has been moved, and the slopes as they take their final position.

Q. The material in that cutting is all assembled rock?—A. Practically all assembled rock.

Q. Now, will you give us some more of those showing assembled rock?—A. There are some of indurated clay.

By Mr. Macdonald:

Q. Is this of any cutting that is called into question?—A. The stations are on it, and the mileage. It has been looked into by the arbitrators. I don't know what their report has been; they have never made any report.

Q. Is it one of the cuts mentioned by Mr. Lumsden?—A. I don't think it is mentioned.

By Mr. Moss:

Q. What number is it?—A. Mile 59, station 3111.

By Mr. Smith:

Q. That is a fair sample?—A. That is a fair sample of what assembled rock is and what the slopes are after.

Q. Can you show by any of the photographs an example of indurated clay?—A. Here is one here. This is the side of the cut, looking at it from the side. It was taken immediately after it had been trimmed, and, of course, after the first few days' rain this would be all washed down; it would be uniform and appear something like this (indicating on photograph). I file (as Exhibit 109) two photographs, one showing indurated clay and loose rock.

Q. That indurated clay was returned as loose rock because it was as hard as rock?—A. Yes.

(Photograph filed as Exhibit No. 109.)

Q. After a short time that would assume the position shown in the next photograph, which we will file (as Exhibit No. 110)?—A. That is not the same cut, but it would look or appear like that after the rain.

Q. Now, Mr. Poulin, had you anything to do with the making up of the estimates to guide the commissioners in dealing with the tenders?—A. No, sir, not on that contract.

Q. Not on this district?—A. No.

Q. Did you go up there to make up a statement yourself or an estimate?—A. Yes. That was one of the first things that I did after going over the work, and in going over the work in October I gave instructions to the division engineers to prepare an estimate of the work, of the quantities on their respective divisions as accurately as possible.

Q. Who prepared the estimates in District 'F' for the commissioners to guide them in examining tenders?—A. I suppose it was my predecessor, Major Hodgins with his staff.

Q. Your own estimate exceeded Major Hodgins' estimates considerably?—A. Yes, well, in the quantities it was about $2,000,000.

Q. That is, your estimates exceeded his?—A. Yes, between $2,000,000 and $3,000,000.

Q. How is that acounted for?—A. Here is a statement of the quantities that were returned. Major Hodgins made two estimates in March, 1906, the 25th March, 1906, and the total quantites on the contract that was given amounted to 15,663,037

yards; that is counting solid rock, loose rock and common excavation. He revised this estimate in 1907, and brought the estimate down to 8,565,470 yards, cutting off something like 7,000,000 yards. Of course the first estimate was made on a line that was changed some 60 or 70 miles I think, and he omitted in his second estimate the quantities of rock borrow for crossings of lakes, amounting to 550,000 yards; then he omitted to calculate one foot below grade in all the rock cuttings for the whole distance, which amounted to 385,000 yards.

Q. That was because they had not the specification which called for the one foot below grade?—A. Yes; and he also omitted to calculate for the extra width required in cuttings for siding in that rough country, which amounted to 490,000 cubic yards; that altogether made a total of 1,425,000 cubic yards of rock, which he omitted to put in his estimates. In his second revised estimate there were only 2,160 yards of loose rock which must have been a very gross error, from what I can see, because when Major Hodgins resigned there was only 20 per cent of the work done, and he had already signed returns for 428,000 yards of loose rock; and there was only 20 per cent of the work done, and the estimates returned contained already 428,000 yards of loose rock, so that he has omitted in his estimate about 2,000,000 yards of loose rock. I think myself that in giving that 2,160 yards of loose rock there were three naughts (000) omitted after that, and it should have read 2,160,000 yards.

Q. What is that statement that you have there. Will you file that?—A. Those give the quantities of those three items, solid rock, loose rock and common excavation, as they were in the estimates by Major Hodgins, and as they were in the estimate that I ordered to be prepared on January, 1908, and also the total returns up to March 1st, 1910.

Statement filed as Exhibit No. 111?—A. Yes.

EXHIBIT No. 111.

THE NATIONAL TRANSCONTINENTAL RAILWAY.

STATEMENT comparing Engineers' Estimate on District "F" for Solid Rock, Loose Rock, Common Excavation and Train fill.—J. D. McArthur, contract.—Mile 2–247.

—	Hodgins' Estimate, No. 1, March 25, 1906.	Solid Rock, quantities omitted.	Hodgins' Estimate, No. 2, Revised, 1907.	—	Poulin's Estimate, Jan. 11, 1908.	Amount Returned, Mar. 31, 1910.	—
	C. yds.	C. yds.	C. yds.	C. yds.	C. yds.	C. yds.	
Solid rock	S. R. 3,696,336	Rock borrow 550,000	S. R. 4,735,747	Add 1,425,000 (omitted). To 4,735,747 Total 6,160,747	S.R. 5,690,917	S.R. 6,236,996	Solid rock, loose rock and common excavation all returned.
Loose rock	L. R. 733,454	Rock in cuttings 1 ft. below grade 385,000	L. R. 2,160	L.R. 2,000,000 (omitted).	L.R. 1,635,127	L.R. 2,097,932	The increase in solid rock is due to rock borrow for lake crossings.
Common excavation	C. E. 11,233,247	Extra width in cuttings for sidings 490,000	C. E. 2,521,126	.....	C.E. 2,326,393	C.E. 2,225,328	The increase in train fill is due to sink holes.
Train fill	T. F.	.....	T. F. 1,306,437	T.F. 1,300,000 (omitted).	T.F. 1,971,750	T.F. 2,475,377	There will probably be from 250,000 to 300,000 cu. yds. more of train fill returned on this section.
Totals	15,663,037	1,425,000	8,565,470	4,825,747 (omitted).	11,623,987	13,035,633	

When Mr. Hodgins told the committee of his revised estimate, he had already signed returns for 428,088 cu. yds. loose rock, and there was only 20 p. c. of the work done. His revised estimate shows 2,160 cu. yds. only.

Q. Were there any other omissions, Mr. Poulin, in Major Hodgins' estimates?—A. Well, his estimate was only for grading, of course. It did not include anything for permanent ways such as ties, switch-ties, tunnels, drainage tunnels, steel in concrete, steel in bridges, rails, angle bars, bolts, water station, extra work orders, frogs and switches, track spikes. There is nothing for all these items included in Major Hodgins' estimate.

Q. What do you figure these things he omitted amounted to?—A. For the permanent road-bed alone it amounted to $3,000,000, and for the rock he omitted, it would amount to $3,600,000, so that there were $6,500,000 omitted in the estimate, which would bring it close to about $18,500,000.

Q. In this statement you have filed you have given your estimate as of January 11, 1908. This is only given as to quantities. You don't figure it out in dollars?—A. I have got it figured, in dollars here to add to that if you want it.

Q. Would you say what is the difference or what will be the difference rather, between the actual cost of District 'F,' and your estimate of January 11, 1908, and give any explanation that you have to give for such increase?—A. The increased cost will not—in the portion that was taken into consideration at the time I made the estimate of January—that is, covering the same ground, there will be probably $900,000 to $1,000,000 difference. It will not exceed that, and that was due to sink holes and the borrowing of rock for the crossing of bays that was not fully determined when the estimate was made. There were 500,000 yards of rock borrow and my estimate for the train fill is on account of not having sufficient soundings taken,—that is the train fill quantities.

Q. That actual cost to the country of District 'F' will not exceed your own estimate by more than $1,000,000?—A. No.

Q. And that is accounted for principally by those two items of sink holes?—A. Sink holes and rock borrow for the crossing of bays and train fill.

Q. Train fill?—A. Train fill goes into the sink hole.

By Mr. Macdonald:

Q. Sink holes are the fills that you come across which you find have depths greater than could be foreseen?—A. Yes, unforeseen and which require extra quantities to fill up. At the time the estimate was made the borings or soundings had not been taken thoroughly over the district, and in some cases it turned out to go to a greater depth than what had been estimated.

By Mr. Smith:

Q. Does the committee think it would be useful to put this statement in?

Mr. MACDONALD.—Yes.

Mr. SMITH.—We will file it as Exhibit No. 112; and the list of omissions as Exhibit 113.

EXHIBIT No. 112.

THE NATIONAL TRANSCONTINENTAL RAILWAY, OTTAWA.

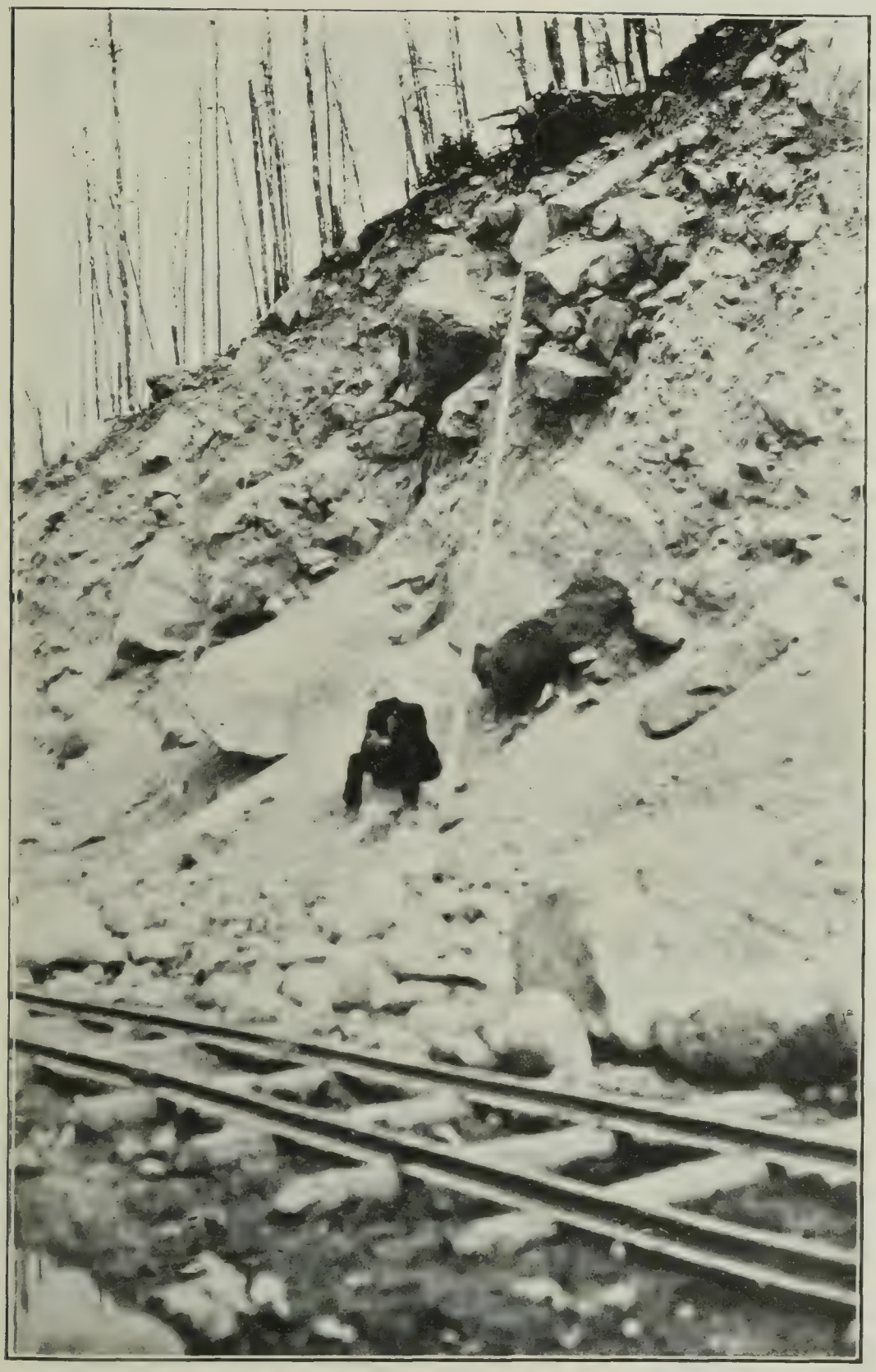
STATEMENT COMPARING ENGINEER'S ESTIMATE OF COST AND COST OF CONSTRUCTION.

J. D. McARTHUR CONTRACT.—DISTRICT 'F.'—MILE 2—247.

Amount of original estimate on which tenders were based	$16,000,000
Cost compiled from Division Engineer's percentage reports	18,974,259
Excess of cost Division Engineer's percentage reports over original estimates	$2,974,259



Res. 24, mile 59, looking east. Rod opposite station 3,111, Jan. 4, 1909.



Res. 24, mile 59, Rod opposite station 3,111, Jan. 4, 1909.



Res. 24, mile 59, looking east.
Rod at station 3,111, Aug. 31, 1909.

EXHIBIT No. 108 (4).



Res. 24, mile 59, looking east. Rod at station 3,111, Aug. 31, 1909.

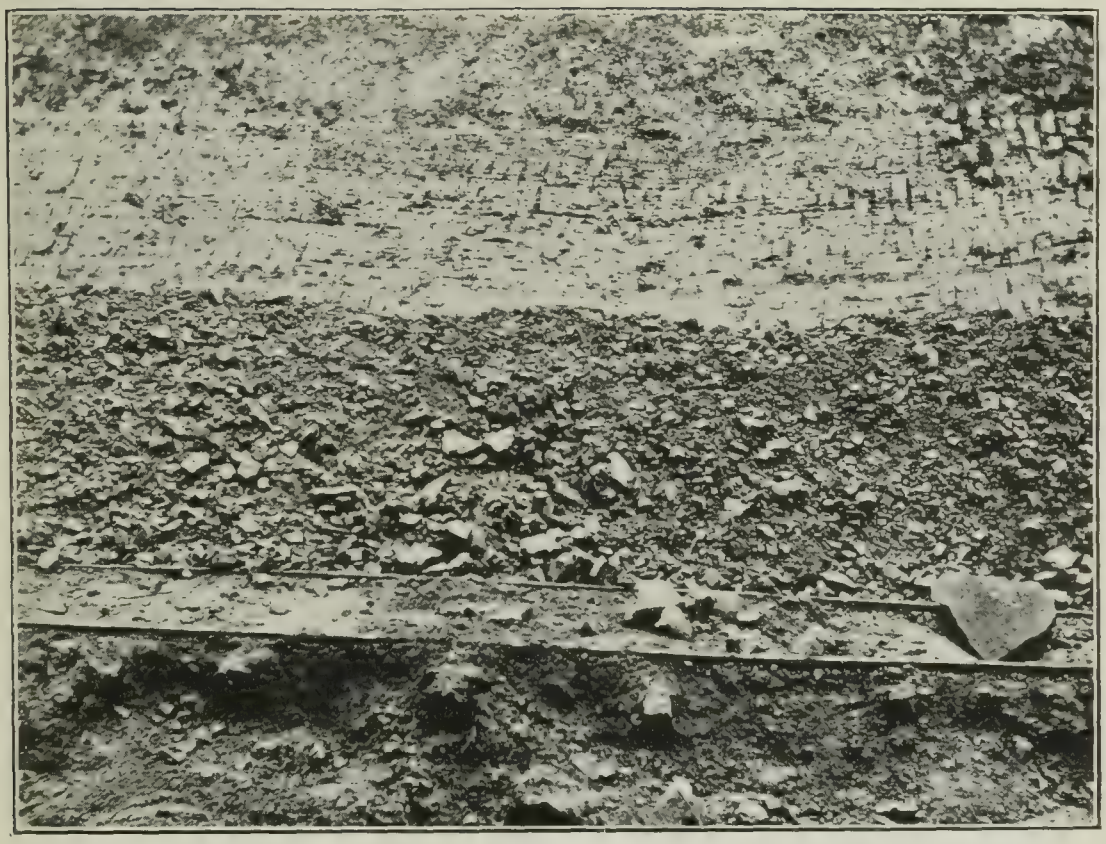


Res. 24, mile 59, looking west. Rod opposite station 3,110, Jan. 4, 1909.

EXHIBIT No. 108 (6).



Res. 24, mile 59, looking west.
,110, Aug. 31, 1909.



Res. 16. Div. 4 "F", Cut Sta., 2,443 to 2,453 Aug. 25, 1909.

EXHIBIT No. 109 (2).



Res. 16. Div. 4 "F", Cut Sta., 2,382 to 2,387, Aug. 24, 1909.

Exhibit No. 110.



Res. 17, Div. 4, cutting station 2,529, south side, Sept. 17, 1909.

APPENDIX No. 3

GRADING.

Original estimate of cost on which tenders were based	$13,000,000
Actual cost as compiled from Division Engineer's percentage reports	16,373,796
Excess cost of grading, Division Engineer's percentage reports over original estimates	3,373,796

Excess made up as follows:—

SOLID ROCK OMITTED IN ORIGINAL ESTIMATE.

Rock borrow	550,000 cu. yds.		
Rock in cuttings 1 ft. below grade	385,000 " "		
Extra width in rock cuttings for sidings	490,000 " "		
	1,425,000 " "	@ $1.70	$2,422,500
Train fill omitted	1,300,000 " "	@ .52	676,000
Total			$3,098,500
Balance of cost in yards at Springfield and Redditt also in Sink Holes			275,296
			$3,373,796

EXHIBIT No. 113.

ITEMS OMITTED IN HODGINS' ORIGINAL ESTIMATE AND INCLUDED IN POULIN'S ESTIMATE OF JAN. 11, 1908.

Right of Way		$ 175,000 00	
Rock omitted.	1,425,000 cu. yds.	2,422,500 00	
Loose Rock	2,000,000 " "	1,200,000 00	
Train Fill	1,300,000 " "	676,000 00	
Ties		672,798 00	
Switch Ties		27,787 00	
Tunnels		189,750 00	
Drainage Tunnels		16,700 00	
Steel in concrete		3,708 00	
Steel in bridges		160,000 00	
Rails		1,336,608 00	
Angle Bars		106,172 00	
Bolts		22,776 00	
Water Stations		103,500 00	
Extra work		76,500 00	
Frogs and Switches		40,500 00	
Track Spikes		58,820 00	
		7,298,500 00	$ 7,298,500
Difference in round figures Major Hodgins' estimate, 1906, and Mr. Poulin's estimate, 1907		13,010,398 92	12,000,000 Revis'd
		$20,308,898 93	$19,298,500

By Mr. Smith:

Q. I just want to ask you one more question. You have had thirty-four years' experience as an engineer in railway construction. I wish to ask you whether upon

all those other railways that you were employed as engineer, the actual cost exceeded the estimates or not?—A. Most of the railways that I have been connected with, except where it was done by days' work, have always exceeded from 30 per cent to 60 per cent over the original estimate, because when the original estimate is made there is very seldom sufficient data to base a calculation on.

Q. Does it not come down to this, that in new country such as ours, engineers cannot figure out in advance the cost, arising from the conditions that they are going to meet?—A. Yes.

The committee rose at 1 p.m.

April 20, 1910.

Committee resumed at 3.30 p.m.

Examination of Mr. S. R. Poulin continued.

By Mr. Smith:

Q. Mr. Poulin, have you filed the statement showing comparison of the estimated cost of construction of a certain portion of the Canadian Pacific Railway with the amount paid out to contractors?—A. I have taken notes from the records in the Railway Department on certain contracts.

Q. What do those notes show?—A. They show that from the original estimate upon which the tenders were given, that, as a rule, the final amount paid out to the contractors showed an increased percentage of from 30 per cent to 65 per cent more than the estimate upon which the tenders were called for.

Mr. Smith.—I file the statement as Exhibit 114.

EXHIBIT No. 114.

Comparison of Estimated Cost of Construction of C. P. R., with amount paid Contractors.

1880–85.

Section.	Miles.	From	To	Name of Contractor.	Estimate of Tender.	Total Amount Paid Contractor.	Over % Paid Contractor.
	Ontario.				$ cts.	$ cts.	p. c.
14	76	Selkirk	Cross Lake	Sifton & Ward	Completion of 402,950 00	107,620 00 651,055 00	50
15	36	Cross Lake	Kenora	Sutton, Thompson, Whitehead	1,594,085 00	2,619,585 00	64
25	80	Grading Sunshine Creek	English River.	Purcell & Ryan	1,037,061 00	1,417,208 00	40
	112½	Tracklaying Ft. W.	"				
42	67	Eagle R	Kenora	Manning & McDonald	3,757,485 00	4,429,435 00	18
	B. C.						
60	29	Emery Bar	Boston Bar	Ryan & Goodwin	2,324,000 00	2,248,857 00	
61	29	Boston Bar	Lytton	"	1,926,969 00	2,511,290 00	30
62	28½	Lytton	Junction Flat.	Andrew Onderdonk	1,368,688 60	1,502,841 00	
63	40½	Junction Flat	Savona Ferry.	"	1,192,583 00	1,685,445 79	45

APPENDIX No. 3

By Mr. Smith:

Q. I notice that the largest percentage, 64 per cent, was section 15, from Cross lake to Kenora?—A. Yes.

Q. That must be somewhere in the same district as you are building?—A. That is right opposite the Winnipeg river, about fifteen miles apart.

Q. About fifteen miles from your line?—A. Yes.

Q. And the amount over the estimate for the tender was 64 per cent?—A. 64 per cent.

Q. The estimate for the tender was $1,594,085, and the amount paid to the contractor for the same was $2,619,585?—A. Yes.

Q. Being an increase of 64 per cent?—A. Yes.

By Mr. Moss:

Q. Mr. Poulin, I want to direct your attention for a few minutes to the so-called notes of evidence taken on the car at Winnipeg on your examination, printed in the proceedings at page 104. You told us, I think, that you had asked that you might be examined at your office, where you had the records and documents which would enable you to deal with the subject more satisfactorily?—A. Yes; it was so that I might lay my hands on any documents that I wanted.

Q. You did make that request, and it was refused?—A. Well, the refusal was in this way; it was to Mr. Lumsden, right in my office, that I asked to have the arbitrators come into my office, and he said: 'You had better come over to the car; you take a few notes with you; they want to have it there.' I said all right, I would go.

Q. Then, do these notes, as they appear in this printed record, contain all that you said in answer to these questions?—A. No; there was quite a lot of explanations given which were not put in, simply because I was talking to engineers who had been over the ground, and who would understand what my answers meant—at least I supposed they would—and in a good many questions like that there were always qualifications and explanations given as to what was really meant.

Q. They don't seem to have directed your attention at all, in examining you, to any particular cuttings or any particular work; the questions seem to have been entirely at large; were they?—A. It was general questions over the whole work, and they had a whole lot of printed questions typewritten, ready, which they fired at me point blank.

Q. Like an examination paper?—A. Exactly, an examination paper.

Q. I see the first question that you were asked was:—

Q. Were you familiar with the way the work on your district was being classified?

and your answer was:—

A. I was, to a certain extent.

Well, that is very vague?—A. Well, it agrees pretty well with the question; the question was very vague also.

Q. Could you amplify that a little more, and tell us what the nature of your familiarity with the work of the classification in your district was?—A. I had notes of the work which I had taken when I was over the work, every time. Besides that, I had the monthly returns, and I had also the reports of the division and my assistant district engineers, who went over the work.

Q. And your personal recollection, I suppose, of the actual physical conditions?—A. Of the most important parts, in any case. There was a certain portion which I did not visit as often as the other.

Q. Then at that time, the time the arbitration was held, had you given instructions for the re-measurement of certain cuts?—A. Yes, in Division 8. In fact, in all those places mentioned in Mr. Lumsden's list of illustrations in District 'F',

which says 'Re-measure,' where he has put in the note 'Re-measure.' Mr. Lumsden was aware at least five months before he came on the arbitration that that work was being re-measured. It was due to some observations made to me by the division engineer as to some portions of the work. I told him to re-measure some of the cuts himself, and, if the case warranted it, that we would put a man to re-measure the whole residency. Mr. Lumsden was immediately advised of that, and he knew that every one of those cuts was being re-measured by my instructions. As he has given it out in the book, or in his evidence, it would appear like if it was work that he found fault with himself, and that he gave there and then instructions to re-measure that work, which is not the case at all.

Q. At the time they were actually under re-measurement?—A. There had been some portions of it under re-measurement since the previous fall, since November and December. It was stopped temporarily on account of the amount of snow there in the winter.

Q. It was under re-measurement by your direction, with the knowledge and concurrence of Mr. Lumsden?—A. Yes.

Q. And, as you say, the notes here would convey a false impression?—A. Well, it certainly is misleading.

Q. That the re-measurement was something that he had made up his mind to direct on the arbitration?—A. Yes.

Q. Did he ask you on the arbitration whether you had given any instructions for re-measurement?—A. He did not ask me; I simply told him there and then myself. I said, 'This is the portion that is being re-measured.'

Q. You told him during the arbitration?—A. During the arbitration; and that is probably why he put the note in his book, 'Re-measure,' 'Re-measure.'

Q. No doubt he had no intention to convey a wrong impression?—A. No; but certainly, as it appears, it does.

Q. Would you say, speaking broadly, of course, that you were thoroughly familiar with the way the work in your district was being classified?—A. I was familiar with it.

Q. And, with the few exceptions of those cuts which you have ordered to be re-measured, are you satisfied to take full responsibility as district engineer for the classification?—A. In as far as I mentioned in my letter of protest. There are a few cases which might need re-adjustment, and which are in progress of being re-adjusted.

Q. Are those cases any more than usually occur on engineering work of this character?—A. No, not any more.

Q. And the re-adjustment of those comes within the scope of your duties as district engineer?—A. Certainly it does.

Q. And in re-adjusting those, do you agree with what Mr. Doucet has said, that the district engineer, in re-adjusting those, must rely on the information that he receives from the resident and division engineers?—A. Certainly; I would not do any re-adjusting until I have fully discussed the matter with the division engineer and with the engineer that was actually in charge of the work at the time that it was being done.

By Mr. Macdonald:

Q. Do these stations that require re-adjustment by you include some of those mentioned by Mr. Lumsden, and if so, what ones? You had better look through the list and see how it compares with those mentioned here before the committee?—A. That first cut in division 5—that long half-mile cut.

By Mr. Moss:

Q. That is station 553 to 556, is it?—A. Yes. I told the present Chief Engineer, Mr. Grant, that I would re-measure that cut myself, and I had it staked out last fall

in order to re-measure it. I have not been able to go there, but I intend to go and re-measure that cut myself as soon as I will get back there. There was another cut at 627 which had been specially mentioned to me, objected to by the arbitrators and by Mr. Lumsden. I had that cut all dug out. The resident engineer explained that the rock was there, and that they had not done sufficient digging of test pits.

Q. That is, that the arbitrators had not?—A. That the arbitrators had not done sufficient.

Q. Who was the resident engineer?—A. Mr. McIlugh. I gave instructions to the assistant district engineer, Mr. McGillivray, who was stationed at Lake Superior Junction, to get all the men necessary; and to dig the whole cut if it was necessary; and he measured the cut himself, and his report was that he found the ledge rock in the cut, and that the whole difference that he could make in the whole cutting was 150 yards of rock. That satisfied me that Mr. McHugh was correct in his statement. He could not explain the matter thoroughly, because after he had taken the cross-sections his notes were all burned, and he did not have his book to plot the centre showing the surface of the ledge rock as it was actually found.

Q. Is Mr. McGillivray's report in writing?—A. I have not got it here with me, I think his report is in writing in St. Boniface about that cut. It was still to be adjudicated upon by the arbitrators, and I kept the report to have it for reference when they would be going over it.

Q. This is the cut where there was a hog's back?—A. No, the cut that you mean was assembled rock. This is a cut that is farther west than the other one.

Q. This is ledge rock, is it?—A. This is ledge rock which could not be found at the time, that is, the cross-section showing the rock such as Mr. McHugh contended at the time the arbitrators did the digging at the points which were indicated as being the right station. Whether it was due to the fact of not digging far enough —not deep enough and not far enough in the slope—to find the solid rock, the whole cut was dug up.

Q. This is one of the cases covered by the burned notes?—A. Yes.

Q. Whose notes was it that were burned?—A. McHugh, the resident engineer.

Q. Were the notes burned on 553 to 556 also?—A. They were burned on the whole of McHugh's residency right up to 670, at which point I think his residency finished.

Q. Then cross-sections were made up by him from memory I think somebody said?—A. A portion of them; that is subsequent figures indicating the line of demarcation between solid rock and assembled rock and other material. The original cross-sections, a copy of the original one, has been sent to St. Boniface, and when his notes and his office were burned, we sent him back the tracing of the original one, that is showing the surface; but as to showing in the cross-sections where the solid rock in ledge finished, and where the assembled rock would commence and where the loose rock was, his notes were lost, and he had to trust to his memory and try to be exact as the instruction, that is, to comply exactly with the instructions that were given to him, that every note must be plotted on the cross-section. He tried to do it from memory, but that is an error that he made; I told him so at the time.

Q. Were there any other cases in your district that you know of where the engineers——

Mr. MACDONALD.—Pardon me, Mr. Moss, but I would like to localize as much as possible the statement of Mr. Poulin as to certain matters in which he revised himself, as far as they are applicable to the parts complained of by Mr. Lumsden.

Mr. MOSS.—I am coming to that. I was asking this question before going on with that.

By Mr. Moss:

Q. Were there other cases where the resident engineers showed by conventional

lines the division between assembled rock and loose rock, where the material on the ground was very much—— ?—A. I don't know of any except on that residency.

Q. That is where that occurred?—A. That is where that occurred.

Q. In McHugh's residency, after the fire, in order to try to show that, he made up these from memory?—A. Yes.

Q. Then what other stations were there which you have noted for re-adjustment which are mentioned by Mr. Lumsden?—A. Well, I did not have Mr. Lumsden's statement and never received it until he gave it in his evidence here.

Q. I understand that, but you know the stations you have reserved for re-adjustment?—A. Well, I have reserved some in my own notes, but I don't know how they compare with Mr. Lumsden, because I never received Mr. Lumsden's opinion, and never knew what notes he took.

Q. You have not your notes here?—A. No, I have not my notes here. I have them at the hotel; that is to say the copy of the notes I have taken myself. I took my notes as I went along.

Q. Can you send down for those notes?—A. Yes. (Notes produced). Station 881.

Q. Was that one mentioned by Mr. Lumsden?—A. Well, I don't know for what it was measured, I took notes.

Q. You have got that down for re-adjustment, have you?—A. For re-adjustment. Station 1,005 plus 70, that is I have got those notes down to look into further myself.

Q. That one does not seem to be mentioned by Mr. Lumsden?—A. Well, he took his notes, he picked out a certain number at random.

Q. You think that is one that was included in his?—A. They were looked into by them.

Q. Then what is your next one?—A. Station 1,052, station 1,685—that is a case of overbreak.

By Mr. Chrysler:

Q. You are re-measuring there?—A. No, it is just a note that I have got to look into.

By Mr. Moss:

Q. Go on?—A. There is a cut at 2,380; at 2,803; there are certain portions on residency 29 which I am having re-measured now, which I gave instructions to re-measure.

Q. Are those the ones that are referred to by Mr. Lumsden?—A. I don't know whether they are referred to by Mr. Lumsden.

By Mr. Macdonald:

Q. Could you locate them by looking at the list, and see whether they are referred to by him or not?

By Mr. Chrysler:

Q. Begin at page 79?—A. Yes, at page 80, station 1,145; that is referred to by Mr. Lumsden.

By Mr. Moss:

Q. You have that 1,145, borrow pit, noted to be re-measured?—A. I have given instructions already to have the same re-measured.

Q. Anything else?—A. That is about all. The others are questions of overbreak which are being adjudicated upon now before the arbitrators.

Q. Then I understand that in regard to the cuts that Mr. Lumsden has referred to under the note 're-measure,' instructions had already been given to remeasure them by you?—A. Yes.

Q. And with the exception of the cuts which you have mentioned as being noted

by you for adjustment and such of them as are under arbitration in respect of overbreak, they were referred to by you as being satisfactorily classified?—A. Yes.

Q. Well, in regard to those that were under arbitration—and I do not want to invade the realms of the arbitration—were you satisfied with respect to the over break on them yourself?—A. Well, the overbreak to my mind had been returned according to the circular that had been issued.

Q. According to the instructions——?—A. According to the instructions.

Q. Then, with these exceptions are you satisfied to accept full responsibility for the classification in your district?—A. Yes, sir.

Q. And are these exceptions more than the ordinary exceptions which would occur on any engineering work of this character?—A. No.

Q. Will you please look at page 104 containing your evidence before the arbitrators. (Reads):

> Q. Are you aware that your engineers (some of them) stated that those borrow pits, which were classified as loose rock, were ploughed by four or six horses and that they never saw more than six horses plough?—A. I am not aware. I came to that decision after discussing the matter with the division engineers. In some cases there were four and six horses and at other times there were more. That is the reason I came to that decision.

Now, reading that question and answer over does not convey any meaning to my mind at all.—A. He asks me whether I am aware that the engineers stated that the material was ploughed by four or six horses. How could I be aware when they questioned the engineers in closed chamber, how could I be aware of their statements? I was not aware they stated anything of the kind.

Q. You state that you were not aware and then you go on to say 'I came to that decision after discussing the matter with the division engineers.'—A. That is, I came to the decision with regard to that fifty per cent ruling.

Q. Yes, I see.—A. I came to the decision of allowing fifty per cent of loose rock in those borrow pits, after discussing the matter with the division engineers. You see that was in answer to the previous question.

Q. I see.—A. That was completing my statement.

Q. Then you go and say 'In some cases there were more than six horses. Was it because of the difficulty in operating with either four or six or eight horses?—A. Yes, sir, I explained that thoroughly yesterday, I think.

Q. I want to clear up this record because it is not very satisfactory the way it is here. Is it right to say that the subject of the allowance of that fifty per cent common excavation and fifty per cent loose rock in the borrow pits was discussed at much greater length than appears?—A. Do you mean before the arbitrators?—

Q. Yes?—A. It was, to a certain extent, and besides that the resident engineers who gave evidence have told me since, that the explanations that they gave for their answers were not published in the evidence.

Q. But as to your evidence, did you give explanations which do not appear in the evidence?—A. I don't know that I did. There were always some conversations after the questions were answered.

Q. But I mean they didn't take down everything you said, they just took down a certain portion of it? Is that what I am to understand?—A. I was talking to engineers, and I thought they would understand from what appears there pretty well what I meant.

Q. Well, who directed what was to be taken down and what was not to be taken down?—A. As far as my own evidence is concerned, I think it is pretty nearly correct. You see, I go on further and say when he asked me 'Would you be surprised if the engineers had informed us that these pits had been ploughed by four horses,' 'It would be an untruth; they certainly had six.'

Q. They had not six horses in all of them apparently?—A. Not in all of them.

Mr. MACDONALD.—Was there any statement made by these engineers that only four horses were used where six are prescribed in the specification?

Mr. MOSS.—I don't think so.

Mr. MACDONALD.—Then what is the meaning of the statement that the engineers had stated that the borrow pits, which were classified as loose rock, were ploughed by four or six horses?

Mr. MOSS.—Mr. McHugh stated they had tried four horses and had given it up.

The WITNESS.—That is a different place. Mr. McHugh was at the eastern end. Mr. Miller was the engineer at that place.

Mr. MOSS.—Mr. Miller says that at times there were four and at times as many as eight horses.

By Mr. Moss:

Q. You must have been referring, Mr. Poulin, to some particular pits when they asked you the question 'Would you be surprised if the engineers had informed us that these pits had been ploughed by four horses' ?—A. That was——

Q. Just wait a moment. You answered 'It would be an untruth; they certainly had six.' Before that you had said 'In some cases there were four and six horses, and at other times there were more.'—A. They were talking about some pits around the Wabigoon river. They meant in that question that it had been continually ploughed by four horses.

Q. And that is the way you understood it?—A. Yes; and I said it would be an untruth, because they had six and they had eight horses when I was there myself.

Q. As a matter of fact, they did have eight horses in some cases?—A. Yes.

Q. And in your evidence you have described the difficulties which were met with? —A. Yes.

Q. Well, then, is it fair to say that this evidence, as it appears here, does not give a fair or intelligible account of the situation in regard to ploughing? It ought to be amplified in order to make it intelligible, ought it not?—A. It is certainly not fair evidence to give to the public, who are not conversant with these things. It may be intelligible to an engineer who had questioned me.

Q. Then, in the next question, you were asked (reads):

> Q. Do you know by whose directions, or by whose authority, your engineers made cross-sections of the cutting or parts of the cuttings showing ledge rock where none existed? Have you been aware that such was done?—A. I have been aware that a certain amount of solid rock was returned where there was no ledge rock, and I certainly took occasion to send down my assistant several times to look into the matter.

Those are the cuttings on McHugh's residency, where his notes were burnt?—A. That is exactly what I was referring to there, the cuttings that were re-measured since by Mr. McGillivray.

Q. Then you were asked (reads):

> Q. Are you now aware that ledge rock was shown on cross-sections where none existed?—A. I can only say that I am aware of what has been done in the present inspection; that, in some cases, they have returned ledge rock where none was to be seen. Whether it was due to the fact that there may have been assembled rock right over, I am not prepared to say.

Now, will you explain that a little more, so that it will be more intelligible to the uninitiated?—A. I think I explained that all this morning in saying where it was solid rock and there was some stripping on top of from one to two feet.

Q. That would be stripping of assembled rock?—A. It would be stripping of assembled rock.

Q. That they might have returned it in that way?—A. They might have returned it in that way.

Q. Then, that was what you were referring to in that answer, was it?—A. Yes.

Q. Then, the question was asked you (reads):

> Q. I am asking you whether ledge rock was shown on cross-sections where ledge rock did not occur and where assembled rock was shown?—A. As to assembled rock, I am aware of it; I would not swear to every point being that way.

Can you tell us what that means?—A. Well, the question is a statement that implies a fact from the arbitrator (reads): 'I am asking you whether ledge rock was shown on cross-sections where ledge rock did not occur and where assembled rock was shown?—A. As to assembled rock, I am aware of it.' I am aware that assembled rock is shown on the cross-section and being taken as ledge rock. The line of demarcation was not shown properly between the ledge rock and assembled rock.

Q. This is still dealing with the same matter?—A. It is harping on the same thing. All those questions are.

Q. This is still harping on the cross-sections on McHugh's residency?—A. A great many of the cross-sections; after leaving McHugh on the first day, I did not see on the ground. I did not see the test being made, because I kept away.

Q. Those are the ones you had in your mind, though, when you were discussing the question?—A. Yes.

Q. And when you said you were aware of it as regards assembled rock, you were referring then to McHugh's cross-sections?—A. Yes.

Q. Then you were asked (reads):

> Q. When were you first aware that your engineers made cross-sections showing assembled rock in cuttings where none existed?—A. This is the first time I was aware. I never had any occasion to suppose the contrary.

You say, 'This is the first time I was aware'?—A. Well, there are some cross-sections, just as I explained this morning, that where they made a digging the cross-section showed assembled rock. In that first cut, for example, where apparently from digging just a foot or two deep it did not appear to be assembled rock. That is what I referred to, and that is why I said, 'That is one of the cuts to be looked into.'

Q. That is to say, when the digging they made did not show assembled rock, that was the first time you were aware——?—A. From appearance there might be a chance to doubt as to whether the cross-section was correct.

Q. That was one of the cuts that you ordered to be re-measured?—A. Yes, sir.

Q. Then you are asked (reads):

> Q. Did you at any time, or recently, issue any orders or instructions as to classification of material into assembled rock which had been otherwise classified?

—A. I did not issue any instructions to classify anything, except by circular.

Q. (Reads):

> At one time on division 8, the face of the cutting had to be cleaned out, and I was told they were going to borrow and I told them they could take it out of there, that it could be returned as assembled rock, as it was according to my opinion. That was all the instructions they received from me.

A. That means that was the only case in which I gave instructions to return a certain portion as assembled rock; I actually gave instructions on the work. That is the only case where I said 'return this as assembled rock.'

Q. Because in your opinion it was assembled rock?—A. It was assembled rock.

Q. And you happened to be on the spot?—A. I happened to be on the spot and they were to borrow at some other place. I said: 'The face of this cut has to be cleaned out, take it out of there and return it as such, because it is so and so.' That was my formal instruction right on the ground.

Q. Did you not confer from time to time with your division engineer and resi-

dent engineer about your method of classification?—A. Yes. I did from time to time, although Mr. Lumsden's circular and letter were sent to them.

Q. But you were keeping an eye on them to see that they were complying with the terms of the instructions and letter, I suppose, as well as you could?—A. Well, it is very hard to determine exactly what Mr. Lumsden meant. I could give my views but I would not attempt to give Mr. Lumsden's views.

Q. What did you say or do with respect to the division and resident engineers in regard to classification.—A. I didn't give any special instructions except in explaining the diagram when I went over there just as it occurred to me. If we were going over a certain portion where there was only assembled rock to be returned. I told them what my opinion was, if it was assembled rock, according to my judgment.

Q. That is whenever you were—— ?—A. Whenever I happened to be on the work. The eastern portion of the work I was only once over previous to the time it was being finished, the last thirty or forty miles at the eastern end.

Q. And then you go on to criticise Mr. Lumsden's interpretation, and I think your criticism is a very just one; I do not know that anything can be added to that. You point out that the explanation and the diagram are wide enough to include cemented gravel although you say you never gave instructions to include that?—A. I never did.

Q. You never returned anything as assembled rock unless there was a considerable amount of boulders in it?—A. A considerable amount of boulders in it.

Q. Then you go on to say that your instructions to your engineers in every case were, that they were there as arbitrators, and if any doubt arose to give in every case the contractor the benefit of the doubt?—A. Yes, sir.

Q. Is that——?—A. That is always the case.

Q. Is that proper engineering practice?—A. It is always, and every engineer does that.

Q. That is a recognized rule in engineering?—A. A recognized rule.

Q. Then you go on to speak of the classification of frozen material taken out in winter as loose rock. Now, could it ever be a part of the duty of the resident or division engineer, or even a division engineer to determine the question of whether or not the contractor was in default under his contract?—A. In the present case I would not consider it, because it would be a point for the commissioners, or whoever gave the contract, to determine that. The work is being carried on under certain specifications and specifications have to be applied whether it is before or after the time that the completion of the contract has expired.

Q. In other words it is fair to say that the duty of an engineer classifying material is to take it and to classify it in its condition at the time it is handled?—A. That is what I take it to be.

Q. As an engineer? Is that a proper view of the engineer's duty, the classifying engineer on the spot?—A. Well, it was in this case when the date of the completion of the contract was past and the work had to be rushed.

Q. I suppose if an engineer gave orders to the contractor to do work in the summer time and he deliberately waited until the winter time to do it—that is a specific piece of work—then the engineer would be justified in saying: 'I cannot pay you for this otherwise than if you had done it in summer?'—A. That is exactly the point that is making me hesitate in answering your question. If the engineer sees that the contractor is wilfully wasting his time and not doing the work in the summer when he should do it, then he should not take into consideration the fact that he does it in the winter.

Q. But, apart from that, where the whole work is being rushed in the winter time, would it be a proper thing for the engineer on the spot to enter into this question, or would it not be his duty to leave that to be determined by a higher authority?—A. I think he could leave it to the higher authorities to determine it.

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Q. And apart from any question of default I suppose that frozen material would come within the definition of loose rock by the classification without any specific instruction at all?—A. That is what I understand. That is the way I understand the specification as to frozen material.

Q. Supposing for the sake of argument, you had a district that was perpetually frozen?—A. Yes.

Q. That would come within the definition of loose rock according to your view of it?—A. It certainly could not be ploughed, it would have to be blasted.

Q. Then is it the fact that in taking out a rock cutting you frequently come across—if the cut is open in the winter time—pockets of frozen material, frozen earth, frozen clay, and so on, which has to be removed in order to go on with the taking out of the rock?—A. Oh yes, there are dips into the rock at different places at different intervals, and these pockets are generally filled in with earth of different kinds. Sometimes it is clay, sometimes it is sand and boulders, sometimes it is cemented material.

Q. And it would be good engineering to postpone the taking out of your rock cutting, to wait till the summer for those pockets or dips of frozen material to thaw out?—A. No. Certainly not. It depends on what you would call good engineering. It would depend on the time that was given to complete the contract. If a man had five or six years to complete the contract he might wait until the next summer to do that stripping, but if the work has to be finished within a certain time it has to be taken out at once.

Q. But if you waited till next summer to do that stripping you would have to wait till the next winter again to go on with the rock because the rock can be better handled in winter than in summer?—A. Oh no, not the rock. You can take the rock just as well in the summer.

Q. But the reason they give for taking out the rock in winter is that it is the best thing to do in the winter?—A. It is the best thing.

Q. I thought somebody said that the handling of the broken material was easier in the winter?—A. In some places it is. They use stone boats which go better on ice than they do on bare ground.

Q. Well then you tell us in your evidence at the top of page 106, that you had instructions to go up and rush the work and I think you outlined your position there pretty clearly. Is there anything you would like to add to that?—A. I think that explains it pretty well. Now, as to the question right after that (reads): 'You would throw the specifications aside and use your own judgment.' Now, that is not in keeping with the explanation that I gave at all. There is no inference to be drawn from the explanation I gave that would lead him to say that I would throw the specifications aside.

Q. I think that is a perfectly just criticism?—A. Yes.

Q. It looks as if Mr. Schreiber had an idea of treating you as a witness who is subject to inquisition, rather than for the purpose of obtaining information—in some cases at any rate. What was the manner in which this examination was conducted by Mr. Schreiber and Mr. Kelliher?—A. Well, I explained that they called me over to their car, and they had a sheet or two of foolscap paper with the questions already prepared which they asked me in a general way.

Q. Then you say that you take the full responsibility for telling your engineers to turn in frozen material as loose rock, and you were asked if instructions were given by you that overbreak should be allowed even if caused by excessive use of explosives and you answered, 'No, never gave those instructions. I told some of the engineers to deduct the amount that would not go in embankments that went over face of cut. In places where rock borrow was necessary and it went into embankments, they would return it.' Would you explain that a little more fully?—A. Well, in some places, if they were loading heavy, to blow the rock deliberately over the side of the cuts, I told the engineers to deduct the amount that would be blown over the side that way, and it was done, and in other cases where there was overbreak, and that

the material remained in the cut and that it was hauled into the embankment where rock borrow would have been—or rather where we would have to resort to rock borrow later on to make the embankment. I told them to return the overbreak as solid rock.

By Mr. Chrysler:

Q. Would the price of rock in borrow be the same as the excavation price for rock in cutting?—A. Yes, exactly the same. A yard of overbreak would be equal to a yard of borrow.

Q. If rock borrow was needed at that place, a yard of the overbreak would be just as good for the road, for the commissioners as rock borrow?—A. It would be far better because the cut would be made wider then.

Q. It was widening the cut and getting the material for making the fill?—A. Yes; but in future, if there was any chance of double tracking the line, there would be so much rock all taken out.

Q. Of course, this is all based upon the supposition that earth filling was not obtainable in borrow pits, or that the rock was to be used in filling across water, or something of that kind, where it was desirable to use rock?—A. Yes.

By Mr. Moss:

Q. Anybody going through in the way these arbitrators went through, and looking at these cuts with the question of overbreak in their minds, could not possibly form any proper idea whether it was allowable or not without going into the whole question of where rock had been used, whether it was proper to allow it as borrow, could they? —A. Certainly not; they could not.

By Mr. Chrysler:

Q. Of course, that answer is given immediately below on page 106. They seem to have that in mind all right. Mr. Kelliher asks:

> Did you take any steps to prevent overbreak being allowed where cheaper material could be obtained as a substitute?

And you answer:

> I have not been aware of any case where cheaper material could be obtained. You must remember that the work on a great many of these was carried on in the winter and it was in the summer that I went over the work. It was very hard to determine where borrow could be obtained.

So that you are talking there in the same way that you are talking here just now? —A. Yes.

By Mr. Moss:

Q. They did not seem to pursue any investigation on this line?

Mr. CHRYSLER.—No.

By Mr. Moss:

Q. Then you told them that the question of the propriety of this rock borrow was decided on the reports of the division engineers, which you had gone into with Mr. Mann?—A. Yes.

Q. And the rock borrow was decided with the sanction of the Chief Engineer? —A. Yes.

Q. And with Mr. Mann's approval?—A. Yes; before it was submitted to the Chief Engineer the matter was gone into fully with Mr. Mann, the Grand Trunk engineer.

Q. And you seem to have produced a list of places, but it was not identified in any way. They do not seem to have called for it? Did you hand it to them, or what became of it?—A. I think I handed the list to them. Mr. Lumsden had a copy in his office anyway. I don't know what he did with it.

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Q. Then you say that you did not, and your engineers did not, give any encouragement to the contractors to expect that they would be paid for excessive overbreak caused by large charges of explosives. Would you have been likely to know if your engineers had given any such encouragement?—A. They might have given it unknown to me, but I am pretty positive that they did not. I have sufficient confidence in them to say they did not.

Q. You rather resent the insinuation contained in that question, do you?—A. I certainly do.

Q. You are reported as saying here, 'In fact, the excessive overbreak shown as present has only come to my knowledge within the last three or four months.' Are you correctly reported there?—A. Yes, I am.

By Mr. Moss:

Q. What do you mean by that?—A. It means this, that from December, 1908, to January, 1909, and February, 1909, there had been up to that time only a progress estimate given monthly, and the engineers had not taken final measurements of the cut. They had not allowed the overbreak, such as it had occurred in the cut, and when they took their final measurements they showed a large increase in the estimates in those three months; in December, 1908, and January and February, 1909.

By Mr. Chrysler:

Q. These were the measurements of rock excavation beyond the slope lines which had not been returned?—A. They were not returned in full; there was a certain amount.

By Mr. Moss:

Q. Excessive overbreak means overbreak caused by the undue use of explosives? —A. Yes, by undue use.

Q. You use the expression here, 'In fact, the excessive overbreak shown at present ——'?—A. I used the same expression that Mr. Schreiber used.

Q. That is what I want you to look at, because it appears that you had acceded to the view that there had been shown an existence of overbreak caused by the undue use of explosives?—A. I might have said the larger amount of overbreak which was shown later on.

Q. That is what you had in your mind, is it? That is to say, you were referring to the fact that by reason——?—A. That was used in this question, 'excessive overbreak,' and I simply used the same word.

Q. Well did you or not intend to convey the impression that there had been an undue use of explosives?—A. I did not mean anything of the kind. I will explain that the large amount of overbreak such as was shown by those estimates with which Mr. Lumsden found fault had only been returned within the last two or three months.

Q. Then the same thing would apply to the question and answer at the top of the page. You appear to have taken exception to some extent to the use of the word 'excessive' there?—A. Well that is the point I take exception to. I take exception to it in that question.

Q. Now, is there anything you gave in explanation then—the question is asked you:

> Why did you order team work on some of the fills to be returned as train hauled fill.

And you go on and say:

> There were four fills which were returned as such, if I remember right, three of them being near the Winnipeg River; these three at Station 855.93 and 110 just east of the Winnipeg Crossing there were three temporary trestles.

Q. Can you give any explanation as to anything that should be added to or subtracted from that?—A. I think the explanation is quite correct that I cannot find fault with that work.

Q. Then you told the arbitrators that you had authority from the Chief Engineer to arrange the train fill price. Do you know if the Chief Engineer ever took steps to get that confirmed by Order in Council or to get it dealt with?—A. He certainly had not when he resigned.

Q. That arrangement stands in the same position as the Dutton arrangement? —A. I think there has been an Order in Council passed within the last three or four weeks?

Q. Dealing with that?—A. Dealing with the price of train fill.

Q. Then you give Mr. Kelliher an explanation of the fill made by teams from the swamps and borrow pit. Is that correct?—A. I don't think that is quite correctly recorded there.

Q. Will you tell us in what respect it is not?—A. As far as it goes it is correct, but it is not a complete explanation of the case. The arrangement was—and I had the sanction of the Chief Engineer that if the contractors put in a steam shovel there with a small engine, donkey engines and cars and made the fill before the track got to that point, that it could be returned at train-fill prices. I made the arrangement with the contractors, J. D. McArthur, and they undertook to make that fill, and as I said in there when I was there at first there were only two scrapers working at that fill which required about 280,000 yards to complete. Before they got the steam shovel there on the place, they started to put in the bottom with cars and horses, in order to advance the work of the steam shovel—and they went on so well with this, by working day and night that they decided, that is, with my sanction, to put the steam shovel in another place; and I would not return the fill, although it was arranged at train fill prices until such time as I was satisfied that the fill would be completed. When the fill would be completed I would return it at train fill prices, because it was one of the first fills contained in the arrangement with the contractor.

Q. The effect of that arrangement was that you got the work done ahead of the track, got the contractor to do the work ahead of the track by other methods, instead of waiting until later on for the track?—A. Yes.

Q. Doing it by the common excavation method,—starting by the ordinary method without waiting for the track, it would have taken a very long time to complete it?—A. Well not that it would have taken longer, because they did finish it in one sense in the ordinary method with cars and horses, but the haul in the ordinary classification would have brought it to about the same price.

Q. The over-haul?—A. Yes.

Q. You don't order the contractors to bring in steam shovels there, do you unless they are willing to do it?—A. It was a matter of arrangement for these fills. The arrangement was that they would take in steam shovels instead of putting in temporary trestles and making up the embankment later on with the train. I had authority from the Chief Engineer to make the arrangement.

Q. What I mean is this that that is something that could only be done by arrangement. You could not compel the contractor to bring in steam shovels and do it in this unusual way, without an arrangement, could you? That is not one of the methods contemplated by the specification?—A. In some places the contractors do it themselves, but I don't think it would have been better.

Q. I suppose it is a question of law.

By Mr. Chrysler:

Q. The question is whether you could compel the contractor to do the work his way or your way?—A. I think, as you say, I would rather leave that to you legal gentlemen to decide.

Mr. Moss.—We will have a debate on that some other time.

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By Mr. Chrysler:

Q. As long as he is within his time and he follows the specification, of course? —A. Yes.

By Mr Moss:

Q. The reason I asked you that was that Mr. Kelliher asked you the question:—

Did it occur to you that it was an extraordinary thing to pay the contractor extra because he put in a suitable plant to handle a big fill of common excavation.

That is at the end of his questioning on page 108, and you are reported as answering his question as follows:—

The matter was submitted to Ottawa before the agreement was made.

—A. I mean that the matter was submitted to Ottawa and sanctioned.

Q. You got your authority and you were relieved of responsibility in that respect?—A. Yes.

Q. Speaking as an engineer, was it an extraordinary or unusual or in any way improper arrangement to make. Speaking in your professional capacity as an engineer?—A. I don't think it was unusual. I think it was taking a means of getting the work completed in time.

Q. Was it a wise arrangement to make?—A. I feel certain it was wise, because I submitted it to the Chief Engineer.

Q. And Mr. Lumsden thought it was wise?—A. Yes.

Q. Then he asked you, or rather Mr. Schreiber asked you:—

Why do you allow overhaul from rock cuttings at one and one-half times the yardage measured in excavation?

And your answer is:—

I do not allow it. The thing was in existence on one or two divisions only when I came here, and I only heard of it last summer, and my instructions were that it was to be returned at one yard per one.

Can you say anything more about that than you said at that time?—A. No, I don't think I can amplify on that.

Q. Is that one of the things that is under your consideration?—A. It has been cut out since.

Q. It has been cut out since?—A. Yes.

Q. It was apparently being cut out at that time by you?—A. Yes. it was being cut out.

Mr. CHRYSLER.—One and one-half to one.

Mr. MOSS.—Returning one and one-half times the yardage.

Q. Then you were asked about the culverts? Have you anything to add to what you said about that to Mr. Schreiber on page 109?—A. No, that is correct.

Q. What do you mean by saying:—

I am aware there are a few culverts on the east end not up to the standard of stone culvert. We have had a masonry inspector all the time, and certainly in some cases he must have allowed bad work; I can't explain how it was.

A. There are a few culverts which are not as good as they should be.

Q. (Reads):—

Are you surprised that your engineers allowed it to pass?—A. In some cases I am. I can hardly attribute it to the lack of knowledge and experience on the part of some of the resident engineers.

You could not have said:

I can hardly attribute it to the lack of knowledge and experience on the part of some of the resident engineers.

The WITNESS.—'I can only attribute it'—that is what it must mean.

Q. That makes a great deal of difference?—A. That evidence was not corrected you know.

Q. That is the reason I want you to read it rather carefully. I think that you told us that the evidence was not corrected by you. I believe you got a copy at the time or shortly after the time it was taken?—A. Yes; when the evidence was taken I asked to have a copy sent to me so that I would see it, and the evidence was given to me in Ottawa, and I left it with the Chief Engineer.

Q. Have you got a copy?—A. I kept a copy.

Q. That is corrected?—A. That is corrected.

Q. Let us see that. Let us make the corrections that you made?—A. I think this is a corrected copy (handing copy of testimony to Mr. Moss).

Q. We won't delay with that now.

By Mr. Macdonald:

Q. In what part of the district was it that those culverts were constructed that were referred to?—A. Right at the eastern end of the McArthur contract. There were two or three culverts where it was difficult to get stone; the stones were rather small; they were dry culverts; they were not masonry culverts; they were more like stone drains.

Q. Are there portions of the district there in which it was impossible to get stone that was suitable?—A. That portion there, it was difficult to get proper stone for culvert.

Q. There was stone, but not stone that would be suitable for culvert construction?—A. Just at that point.

Q. How far would it be away where you would have to go to get suitable stone?—A. It is hard to say. A portion of that work is carried on in winter, and it was very hard to determine where they would get good stone. A great many of those culverts were done before I got there, also just as the work was being commenced, two or three of those culverts.

By Mr. Moss:

Q. The number of those that were defective is only two or three?—A. Two or three culverts.

Q. They have since been made proper, have they?—A. Some of them have been adjusted, mostly at the end where the retainng walls were.

Q. That is not very serious?—A. Not very.

Q. It is a very small affair, is it?—A. It is a very small affair in comparison. This is the evidence.

Q. In regard to that evidence, Mr. Poulin, I was going to ask you if you will look through it, you have it there, with the corrections in the margin?—A. Yes, this is a copy that I corrected.

Q. This is a copy that you corrected at the time?—A. Yes.

Q. Probably the simplest way will be to put in the corrected copy as it stands now, this is the evidence taken by the arbitrators; we will put that in as

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(Corrections are shown in italics.)

Mr. S. R. POULIN, District Engineer, District 'F,' called and sworn at Winnipeg on the 8th day of June, 1909.

By Mr. Schreiber:

Q. Were you familiar with the way the work on your district was being classified?—A. I was to a certain extent.

Q. Explain to what extent you refer?—A. Well, I know the work was sup-

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posed to be classified according to the interpretation given by the Chief Engineer, and my instructions were to classify the work according to the interpretation that had been given. Until I took charge of the work there had been certain disputes which came up between my predecessor and one or two of the division engineers. These were left to me, but they were left in abeyance until the Chief Engineer gave his interpretation of certain clauses. I have circulars that I issued at the same time and answers *from* the divisional engineers that work was classified according to *the* interpretation *of the Chief Engineer.*

Q. You did issue instructions to engineers in writing on the classification of the work generally?—A. Yes, I have copies of those circulars, one January 17, 1908, and April 2, 1909.

Q. Did you, on any occasion, give instructions to any of your engineers to classify borrow pits of clay, which were ploughed by teams of four or six horses, as loose rock?—A. I gave instructions to my division engineer on that portion near Wabigoon river not to classify *as loose rock* borrow pits which were ploughed by four or six horses, but I went over that portion of the work, and every time I went there, there were eight horses, and sometimes I saw six. The men that had been taken down there from the west were threatening to leave the work if some of them did not get loose rock. After discussions with division and resident engineers, we came to an agreement that it would be fair to allow them 50 per cent of common and 50 per cent of loose rock in those borrow pits.

Q. Are you aware that your engineers (some of them) stated that these borrow pits which were classified as loose rock were ploughed by four or six horses, and that they never saw more than six horses plough?—A. I am not aware. I came to that decision after discussing the matter with the division engineers. In some cases there were four and six horses, and at other times there were more. That is the reason I came to that decision.

Q. Would you not think that the engineers on the work would be aware of eight horses ploughing?—A. Yes, and I took it from them that, at certain times, they were obliged to put on eight horses, which induced me to come to that conclusion. It is very hard to determine which layer they are using, four horses or six, or which is the hardest?

Q. Would you be surprised if the engineers had informed us that these pits had been ploughed by four horses?—A. I would be; it would be an untruth; they certainly had six *or more when I was there.*

Q. Do you know by whose directions, or by whose authority, your engineers made cross-sections of cuttings or parts of cuttings showing ledge rock where none existed? Have you been aware that such was done?—A. I have been aware that a certain amount of solid rock was returned where there was no ledge rock, and I certainly took occasion to send down my assistant several times to look into the matter.

Q. Who is your assistant?—A. At that time, I sent Mr. McGillivray; I have his report here, a copy of which was left with the Chief Engineer in Ottawa.

Q. Are you now aware that ledge rock was shown on cross-sections where none existed?—A. I can only say that I am aware of what has been done in the present inspection; that, in some cases, they have returned ledge rock where none was to be seen. Whether it was due to the fact that there may have been assembled rock right over, I am not prepared to say.

Q. Are you aware of cross-sections showing ledge rock where no ledge rock existed?—A. I am aware that, in some cases, ledge rock is shown on cross-sections where ledge rock did not exist. *I forgot to mention that in case of stripping of from six inches to two feet, or sometimes more, in large rock cut cross-*

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sections were all taken as solid, especially in winter work, but this was never objected to, and was approved by the G. T. P. engineers.

Q. I am asking you whether ledge rock was shown on cross-sections where ledge rock did not occur and where assembled rock was shown?—A. As to assembled rock, I am aware of it. I would not swear to every point being that way.

Q. When were you first aware that your engineers made cross-sections showing assembled rock in cuttings where none existed?—A. This is the first time I was aware. I never had any occasion to suppose the contrary.

Q. Did you at any time or recently issue any orders or instructions as to reclassification of material into assembled rock which had been otherwise classified?—A. I did not issue any instructions to classify anything except by circular. At one time, on division 8, the *face* of *one* cutting had to be cleaned out, and I was told they were going to borrow *rock*, and I told *the district engineer to* take it out of there, that it could be returned as assembled rock as it was according to my opinion. That was all the instructions they received from me.

Q. Explain your understanding of assembled rock?—A. My understanding of assembled rock? If I *take* what the specifications say and the explanation given by the Chief Engineer, it is very broad. According to that, almost anything can be called assembled rock, even *cemented* gravel. There were never any instructions given to that effect by myself.

Q. How would you construe gravel such as you spoke of as assembled rock, when it is clearly shown in the specifications that it is loose rock?—A. It is clearly shown in the specifications, but in this diagram which shows assembled rock, there is no scale shown. There is nothing that explains anything. I consider that this interpretation only makes the specifications worse than what it was to a young engineer.

Q. Do you remember the last wording of Clause 34 in regard to solid rock?—A. May be best removed by blasting.

Q. Do you take into consideration the wording of the specification in connection therewith?—A. Certainly I do. In looking into the specifications, I look at it on the worst side. We have to meet the objections of those doing the work as well as ourselves, *if* the engineeer is to be the judge. *At* the same time, they have certain rights, and the interpretation has to be acted upon literally as it is worded.

Q. You are disregarding the specifications and sympathizing with the contractors and making your classification accordingly?—A. Not at all, contractors have certain rights. In my instructions to engineers, I told them that, in every case, they were there as arbitrators, and, if any doubt, in every case, to give the contractor the benefit of the doubt.

Q. Do I understand you that your engineers on the ground are not governed by the specifications, but as to whether or not the work is paying the contractor?—A. No, my instructions to the engineers on the ground were these. Classify the work according to the time it was being taken out. If the work had to be rushed and a cut had to be opened in the winter, and the material was frozen, to return it as loose rock.

Q. You gave these instructions?—A. Yes.

Q. Point out to me in specifications or contract anything where that is based. Do I understand you that if the contractor is two or three years behind in his contract, does that look like a rush?—A. I had instructions from the Commissioners *that* the date of the completion of the contract was finished. The time McArthur had to turn the work over to the Commissioners was 1st of October,

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1907, and I left Ottawa 3rd of October, 1907. I asked if time of contract had been extended. My instructions were 'No.' 'Go up and rush *the* work.' I have had letters upon letters from the assistant chief engineer asking to have work completed by fall of 1908, when there was only 20 per cent finished. I wrote it was impossible to complete the work. Every cutting had to be opened. If there is any penalty against the contractor, the Commissioners have a *recourse* against him. I was justified in rushing the work and returning material according to *the* circumstances, *during which* it was taken out.

You would throw the specifications aside and use your own judgment?—A. The contract was signed in May 1906, to be *completed* in September 1907. When you take into consideration that the work had to be performed in about sixteen months—there were eight months of winter—it was utterly impossible to do the work only in the summer. In fact before I came on the work, instructions had been issued to return *blasted frozen* material as loose rock.

Q. The instructions given by the Chief Engineer, were they of a general character, or were they one special case?—A. There were no instructions given to me by the Chief Engineer in regard to loose rock outside of those, but the returning of frozen material as loose rock was being done before I came here, and was general six months before I came.

Q. Is that the document in which you say instructions were given?—A. Yes.

Q. Have you any correspondence or memo. in your office from the Chief Engineer of other instructions?—A. I take full responsibility for telling my engineers to return frozen material as loose rock.

Were instructions given by you that overbreak should be allowed even if caused by excessive use of explosives?—A. No, I never gave those instructions. I told some of the engineers to deduct *the* amount that would not go in embankments, that went over face of cut. In cases where rock borrow was necessary and it went into embankments, they could return it.

By Mr. Kelliher:

Q. Did you take any steps to prevent overbreak being allowed where cheaper material could be obtained as a substitute?—A. I have not been aware of any case where cheaper material could be obtained. You must remember that the work on a great many of these was carried on in the winter, and *I* went over the work *only once in the fall before, as soon as I took charge*. It was very hard to determine where borrow could be obtained. No possible borrow could be obtained from reports I had. I discussed those points with Mr. Mann and it was reported to me that no possible material could be obtained.

Q. Do you consider train fill as a substitute?—A. It was not taken into consideration. As places of train fill had been determined and no rock borrow was going into train fill. There was very limited time to make any changes where there was a rock borrow determined upon; the rock borrow was almost completed in the winter.

By Mr. Schreiber:

Q. Do I understand you that you got this information from the various engineers, because you could not, having been *only* once over the road, observe these places?—A. I could not observe those places when rock borrow was determined. These rock borrows were to be commenced in winter, and it was from reports I had from division engineers, which I had gone into with Mr. Mann, and the rock borrow was decided with the sanction of the Chief Engineer. They were *also submitted* to the Chief Engineer before they were gone into.

Q. Would that not be in cases where you were crossing water stretches?—A. Here is a list of places.

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Q. Did you, or did any of your engineers to your knowledge, give encouragement to contractors to expect that they would be paid for excessive overbreak caused by large charges of explosives?—A. I certainly did not give encouragement to contractors to expect to be paid for excessive overbreak, and am not aware that any of the division engineers have done so. In fact, the excessive overbreak shown at present has only come to my knowledge within the last three or four months, *when final measurements were made.*

Q. Are you aware that Mr. Grant ever gave them any encouragement?—A. I am not aware of it, because I take *in consideration* the word excessive in your question, that is why I say that I am not aware of it.

Q. Why did you order team work on some of the fills to be returned as train hauled fill?—A. There were four fills which were returned as such, if I remember right. Three of them being near the Winnipeg river. These three at station, 885, 93 and 110 just east of the Winnipeg river crossing, there were three temporary trestles *and train-fill marked on the profile.* It was at the time I was going to Ottawa on the Hodgins' investigation. The division engineer *spoke to* me that these three temporary trestles marked on profile as temporary trestled and train fill, *saying* if I wanted these done in the summer (Mr. McArthur had more than he could do with train filling), that certain parties *would* take an outfit down and do *two of them* from the large pit south of *station 88.* The whole borrow was supposed to come from 1,000 ft. south of here, at station 88, was just as advantageous to the commissioners. If he made these fills from *that* about 1,200 ft. south. I told him if *they* made the three fills from that borrow pit it borrow pit I would sanction it. If that agreement had not been made the fills would not have been done.

Q. Are you not aware that taking it out of borrow pits would have been much less than train fill?—A. As it turned out afterwards. I was not aware of any borrow pits adjoining the fills.

Q. Did you inquire of your engineers as to whether common borrow could be had near the site of these?—A. I certainly did. I would not allow the two fills alone to be made unless they made the third one, *because then the overhaul would equalize the price.*

Q. Did the division engineers inform you that there were no borrow pits?—A. The division engineer told me there was no material.

Q. Was it known there was an available borrow pit to make fill at station 85?—A. Station 88.

Q. Why was that not used in the ordinary way to make fill at station 85?—A. They would not take an outfit down unless they could get train fill.

Q. Would not McArthur do it? Did they not have a contract?—A. Yes, train fill price was arranged.

Q. By whose authority?—A. I had authority from the Chief Engineer. I had authority for special fills given to me. I mentioned there were three or four places where we might get fills made up by train fills, allowing train fill prices previous to track being laid.

Q. Have you that correspondence?—A. I have not got it here. I mentioned it to the Chief Engineer and these were marked on profile at the time as temporary trestle and train fill. I could not force McArthur to make them, as they were marked temporary trestle and train fill.

Q. Do I understand you that the division engineer informed you that the material was there?—A. The division engineer informed me that there was only *one* pit at station 88, which I knew myself.

Q. Do I understand you that these three places were covered by instruc-

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tions received from Ottawa as to train fill?—A. Yes, I do understand they were covered. There was a certain amount of latitude given to me in that respect.

Q. By whom?—A. By the position I had.

Q. In writing?—A. No, but I certainly was not supposed to act as a perfect dummy in charge of work like this.

By Mr. Kelliher:

Q. Will you please explain why the fill made by teams from the Swanson borrow pit was first borrowed in the ordinary way as grading, and subsequently changed after the fill was completed to train haul fill?—A. *The answer to this question as reported did not contain half the explanation given. See letter to Chief, of January 13, 1909.*

Q. While the work was in progress and that fill made by teams, it was made part as loose rock and part as common excavation?—A. Yes, sir, if fill was completed in time it was to be returned as train fill.

Q. The date you observed it on the ground, did you classify it?—A. The 22nd October.

Q. Did you satisfy yourself on that date on the ground if classification was right or wrong?—A. *Nothing had been objected to by Mr. Mann.* I did not take it into consideration at all. I only *looked in* classification afterwards. I did not look into classification *of that pit* on that date.

Q. Did it occur to you that it was an extraordinary thing to pay contractor extra because he put in suitable plant to handle a big fill of common excavation?—A. The matter was submitted to *Ottawa* before the agreement was made.

By Mr. Schreiber:

Q. Do I understand you that you spoke of getting instructions from Ottawa? Do you refer to the commissioners?—A. I refer to the commissioners and the Chief Engineer. The whole thing was submitted to *him,* and I explained at the time that it was more than likely that these fills would not be ready, and *that* there were more fills than could be made by the contractor in two or three years.

Q. Did you get authority in writing?—A. Yes.

Q. Did you authorize, or were you aware that the roads leading into these various borrow pits were paid for?—A. No, sir, I am under the impression it was not returned. I do not know for certain. (*In certain cases it is right to allow them*).

Q. Why do you allow overhaul from rock cuttings at 1½ times the yardage measured in excavation?—A. I do not allow it. The thing was in existence on one or two divisions only when I came here, and I only heard of it last summer, and my instructions were that it was to be returned at one yard per one.

Q. What measures did you take to have back estimates corrected in that direction?—A. In one case, I remember *saying* that there was considerable overhaul to be returned yet. It has not been finally adjusted yet, because too much had been returned. The division engineers claim that the thing had been sanctioned and instructions given by my predecessor, and a good many of the subs had been paid on that work and they did not see how it could be adjusted.

By Mr. Kelliher:

Q. Has it been corrected in estimate to date?—A. Not all.

Q. Any?—A. Some.

Q. About what percentage of the total?—A. I can't say.

Q. Has it been deducted on section immediately west of the Winnipeg river?—A. I do not think so, that is the division to which I am referring.

Q. When is it to be deducted?—A. I intend to take that point up again with the Chief Engineer.

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Q. Do you consider there is any question about it?—A. There may be the question of deducting it from the contractor according to the contract. It may be necessary to submit the matter to the Chief Engineer and commissioners, because the engineers claim they got instructions from my predecessor.

By Mr. Schreiber:

Q. Did you receive instructions or advice from any one at any time to vary from the classification defined in the specification?—A. No, never.

Q. Were instructions given by you to allow culverts which had been built of any stone not in accordance with the specifications to be classified as third-class masonry on the joints being cemented outside?—A. No.

Q. Are you aware that such has been done?—A. It has been claimed that such has been done. It is a case of veracity between my engineers and those who reported the matter. It was reported to me that the culverts were third-class, and I have taken the word of my own engineers.

Q. Did you take any steps to establish which was right?—A. I went *through* one culvert and found it was as good as others that had been built.

Q. Did you take any of it down?—A. No, sir. It was a small culvert, and I thought there was a good deal of ill-feeling between the two engineers in question.

Q. Having been over the work recently, are you aware that many of these dry culverts are not built according to specification, especially as to jointing and facing stone?—A. I am aware there are a few culverts on east end not up to standard of stone culvert. We have had a masonry inspector all the time, and certainly in some cases he must have allowed bad work; I can't explain how it was.

Q. Are you surprised that your engineers allowed it to pass?—A. In some cases I am; I can only attribute it to the lack of knowledge and experience on the part of some of the resident engineers.

Q. Are you surprised that your division engineers allowed this to pass?—A. I think that in some cases they should not have been allowed to pass. They should have been rebuilt or repaired. The only explanation I can give would be that in many cases these stone culverts were built in a hurry, and were covered over before the division engineer had a chance to see the whole of them. That would not excuse poor workmanship on them.

Q. Do you think building in winter would diminish the size of the stone? (*Question not given right, or it is absurd.*)—A. No.

Q. Do you think it would prevent stone being laid with proper bond?—A. No.

Q. Do you think it possible these culverts could have been built without the division engineer seeing them?—A. Some of them have been built without his seeing the whole of them.

Q. Were not many of these culverts under heavy rock embankments built far in advance of the dump?—A. They could not have been built so far in advance of the dump, as the whole of that eastern work was carried through in four or five months.

Q. Did you order rip-rap to be placed on top of culverts?—A. Yes, I ordered it at one place on Johnson & Anderson's work in order to save the culvert.

Q. Have you any correspondence you would like to put in?—A. There is nothing. All the correspondence can be had at any time.

By Mr. Kelliher:

Q. Which grade of engineers do you consider responsible for the classifica-

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tion?—A. I hold them both, the division and resident. The resident engineer makes the classification, and the division engineer should see that it is correct.

Q. Do you expect your division engineers to go over a cut once a month and examine the classification turned in by the resident engineer?—A. Yes, I think they should.

Q. Do you expect them to be familiar with every part of the classification?—A. Yes, I expect them to give me information.

By Mr. Moss:

Q. Is that correction 'I can only attribute' made in this copy?—A. I think that is the way it is written in there, 'I can only attribute.' It is a misprint in this printed copy.

Q. Yes, it is the fault in the printing office. Well, then, he asked you about considering the engineers responsible for the classification and you tell him you think both division and resident engineers are responsible?—A. Yes.

Q. Now, having regard to all that we have discussed and to those several matters which you say are subject to reserve for adjustment and so forth, are you satisfied with your engineering staff on District 'F'?—A. I am.

Q. And have you full confidence in their ability, their industry and their integrity?—A. I have.

Q. And are you satisfied that the work has been carried on both to the best of their ability and with a full regard for the interests of the Commission and the country?—A. I am satisfied.

Q. Mr. Lumsden has told us that the reason of his resignation although originally stated as being due to the loss of confidence in the engineers, should be described rather as a difference of opinion in regard to the classification arising, principally in regard to assembled rock. Has Mr. Lumsden been aware for a very considerable period before the arbitration took place exactly how assembled rock was being classified on your district?—A. Well, he was over the work several times, I think he should have been aware.

Q. Did he see in those visits a number of cuts illustrating fairly the class of material that was being returned as assembled rock?—A. He certainly saw it in the case of the summit cut at Canyon Lake, he was over it with Mr. Woods, and went through the cuts between Canyon Lake and Wabigoon River; he saw where there was assembled rock at that time, that is at the time of that visit, or if he did not see it he should have seen it, because he went there for the purpose, and at the same time he saw the cut at the eastern end of the work.

Q. Then has he ever made any complaint in regard to that classification, except as based on the complaints made by the Grand Trunk Pacific engineers?—A. The only complaint that he made to me was the complaint when I was in the office here with regard to the way in which the notes were kept.

Q. That is more a matter of office routine, is it not?—A. It is a matter of keeping notes, he said that it was not put on the cross-section.

Q. But I am speaking now of returning a certain kind of massed material, consisting of boulders cemented together, such as you were returning on District 'F'?—A. He has never made any at all.

Q. Has he ever made any complaint that you were returning material there which should not be returned as assembled rock?—A. He has never done so.

Q. He has never done so up to the time of his resignation, as a matter of fact?—A. No, he has not.

Q. I do not know whether you were asked, I think perhaps Mr. Chrysler did ask you, about the classification of the Grand Trunk Pacific, the 11 miles of their work?—A. I was not asked that.

Q. Are you familiar with the classification of the Grand Trunk Pacific 11 miles?—A. I am familiar with the returns that have been made and from what I have seen of the work.

Q. You are familiar enough to express an opinion, or to make a comparison between the classification of that work and the classification on your district?—A. Yes, the work has been remeasured, that is the work of the Grand Trunk Pacific for several miles.

Q. And is it classified on any different basis from the classification in your district?—A. It is classified from 15 to 25 per cent higher than the highest classification that has been given on the McArthur contract.

A. Well, now, in regard to this assembled rock, is it treated in the same way on their contract?—A. They haven't returned any assembled rock; they returned simply solid rock.

Q. They made no distinction?—A. They made no distinction between solid and assembled rock.

Q. But what you would return as assembled rock has been returned there as solid rock?—A. Solid rock, and more liberal than it has been usual on return on the McArthur contract.

By the Chairman:

Q. And those classifications have been ordered by Mr. Woods, the Chief Engineer?—A. If they were ordered.

Q. The gentleman who has charge of this classification, the supervision of the classification for the Grand Trunk Pacific.

Mr. Moss.—The reclassification.

The CHAIRMAN.—Yes.

A. There is no reclassification up to the present time; this 11 miles was work that was performed by the Grand Trunk Pacific themselves on a portion of the branch from Lake Superior Junction, which was turned over to the commissioners and made part of the main line, and they have turned over the quantities and the estimates which they themselves returned and paid to their contractors, they have turned that over to the commissioners in order that they themselves may be recouped for the money which they have paid the contractors. The work was remeasured to see how those quantities turned out, and that is the reason of it. We found that the classification is from 15 to 20 per cent higher as a rule.

Q. There was a certain cutting, a lake side cutting or a hill side cutting, I think it was, on Lost lake, was it?—A. Yes, Lost lake.

Q. Where there was a hill side cutting which was taken out in the winter, do you remember that?—A. Yes (producing profile).

Q. What station was that at?—A. Station 554 to 561.

By Mr. Chrysler:

Q. Well, let us use the station figures that are given in the rest of the evidence; I think it begins at 550, the criticism of it refers to it as 553.80 to 566, which, includes those stations. It is the first item mentioned in Mr. Lumsden's memorandum on page 79?—A. Yes.

Q. Being about 1,200 feet long, it is referred to over and over again in the evidence. It is mentioned in several places, the first item on page 80; it is mentioned again the second item in the list of places on page 81, and it is mentioned as one of the places where cross-sections showing ledge rock were erroneous. It has committed pretty nearly all the crimes in the calendar that cutting.

By Mr. Moss:

Q. Look at pages 455 and 456?—A. I don't think there is any ledge rock shown in the cross-section of that cut.

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Mr. CHRYSLER.—It is in the list, and the comment is: 'From appearances whole cut is C.E., but may be a few yards of rock in boulders.' It appears again at page 82, the last item but one, 'Dug down 6 feet south from centre of track 3·8 feet; good ballast; from appearances this whole cut is C.E., but may be a few yards rock in boulders.' Now, if you remember that cutting and can tell us about it, it will be very desirable to do so.

By Mr. Moss:

Q. You will find that Mr. Lumsden speaks of it on pages 455 and 456?—A. I remember the cutting pretty well. This cut was commenced in winter and finished in the month of June, the last top part of it was finished in the month of June.

Q. Yes, what was the nature of the cut?—A. They made one digging, or two, at that place apparently where there was a pocket of sand, but if they had looked at the east end of the cut where there was a borrow pit they would have noticed that it was nothing but a mass of boulders, so much so that in the ballast pit which Mr. Lumsden speaks about we have tried to put in a steam shovel in the same place since, and the contractors have refused to put in a steam shovel there because it is too hard and there are too many boulders in it. Is that cut in arbitration? Is that in the list of cuts? Where does that come in?

Mr. CHRYSLER.—It comes in Mr. Lumsden's list.

A. I know, but is it in arbitration yet?

Q. Oh, I don't know. It appears in Mr. Woods' list of cuttings objected to on

Mr. CHRYSLER.—I don't know whether it is in arbitration, but it is in Mr. Wood's list of cuttings objected to as being too high, which is printed in the Sessional Papers No. 42*a*. on page 8.

Mr. MOSS.—Exhibits Nos. 70 and 71 appear to be cross-sections from that cutting. That was a hill side cutting, wasn't it, or a side hill cutting, whichever you call it?—A. A side hill cutting.

By Mr. Moss:

Q. And it ran along the edge of Lost lake, was it?—A. Yes, Lost lake.

Q. And what was the nature of the material there?—A. The nature of the material at the time that the arbitrators passed seemed——

Q. I am not speaking of the time the arbitrators passed, but of the time the work was done?—A. At the time the work was done I did not see it; I was not on that cut when it was being taken out at all.

Q. You didn't see the cuts being taken out?—A. No.

Q. Was that taken out before your time?—A. No, it was taken out during the winter of 1907-8, it was opened in the winter and finished in June, and I was here from March until the 1st of July during the Hodgins' investigation, that is the time it was being done.

Q. You can't speak of that then?—A. Not from seeing the work in progress.

Q. Did you see it immediately after it was done or shortly after it was done?—A. I saw it after it was done, in the fall after it was finished.

Q. That was on Mr. Richan's division, wasn't it?—A. Yes.

Mr. MACDONALD.—You need not waste time about it, I think.

By Mr. Moss:

Q. These, I think, are some of the cross-sections which were made from memory, are they not, or perhaps you do not know?—A. I do not know about this one, Mr. Richan can explain that.

By Mr. Chrysler:

Q. Where is Dutton's cut?—A. That is on divison 7; I can give you the stations for that. (Consults profile.) Dutton's cut extends from station 131 to 162.

Q. On what division?—A. Division 7.

Q. Who is the engineer?—A. Mr. Willett was the resident engineer.

Q. On division 7?—A. Yes, mile 133½.

Q. I do not know what is the explanation of it just now; it does not appear to have been objected to by Mr. Woods; I don't think it was objected to by Mr. Lumsden; do you know whether there is any question about the classification on that cut?

Mr. Moss.—Mr. Poulin's reason for referring to it was by way of illustration.

Mr. Chrysler.—So far as the Dutton cut was concerned you gave evidence in regard to it, Mr. Poulin, on a matter between yourself and Mr. Lumsden in regard to carrying out a certain agreement with the contractor?—A. Yes.

Q. It is not a cutting in which there has been any controversy before you were here?—A. It is a cutting just like the one that Mr. Lumsden and the arbitrators had passed judgment on; I don't know; they have taken notes there just like they did on every other cut and I do not know what they have done with it.

Q. It is not referred to in the evidence, it is not referred to in Mr. Lumsden's list, and it is not objected to by Mr. Woods.

Mr. Macdonald.—It is not in issue at all, no imputation has been made against it.

Mr. Chrysler.—No, there has been nothing said about it.

By Mr. Moss:

Q. I want to ask you, Mr. Poulin, a general question whether there was anything else you desired to say in regard to Mr. Lumsden's attitude towards you?—A. No.

Committee rose at 6 p.m.

April 20, 1910.

Committee resumed at 8.50 p.m.

Examination of Mr. S. R. Poulin continued:—

By Mr. Chrysler:

Q. With regard to the agreement which you said was come to with regard to measuring or returning clay in the cutting and borrow pits near Wabigoon as one-half loose rock and one-half common excavation, have you power to do that under the contract?—A. If you will allow me, you must not confound the thing. It was not an agreement with the contractors at all; it was not at all with the contractors; it was simply instructions that I gave to the engineers, and I put ample power under the specifications—not under the contract. The specifications gave me ample power as district engineer to say to the engineers subordinate to myself, 'You will return such and such portions of the work at 50 per cent of common excavation.'

Q. That was the determination as to classification?—A. As to classification, that is all.

Q. According to your judgment?—A. According to my judgment. It was not an agreement with the contractors at all, because the contractors never knew anything about it.

Q. You explained that before, but it was done in the exercise of your judgment as to what was a fair classification?—A. Yes, and the exercise of my rights as district engineer.

Q. I suppose you would agree with me, however, that your power under the specifications did not extend to allowing a contractor loose rock price for common excavation?—A. Certainly not, if it was common excavation. That is not the way I looked at it.

Q. And you did not do it in that way or with that view?—A. Not at all; it was simply giving a fair, just and equitable return for the work that was being done.

Q. Well, have you any right to do things that are equitable if they are not according to the contract and specifications?—A. That is exactly the point; I considered that it was according to the specification.

Q. Then, better not say that you did it because it was equitable, because I don't think you have any right to consider that; you must follow the specifications—A. I beg your pardon, that is, if I differ in this way with you. You might pronounce wrong the word 'equitable' if you look at it in the way that it was an arrangement between the contractor and the commissioners, but I say that it is equitable as between the different classes of material; it is just a fair proportion between the two classes.

By Mr. Wilson:

Q. According to the specification?—A. Yes, according to the specifications.

By Mr. Chrysler:

Q. That was a division of the material into two classes?—A. Into two classes, and just as fair and as just as it could be judged within the means that a man had in his power to draw the line of demarcation between the two.

Q. I wanted to call attention to that, because it did not seem to me that it was right. You had a similar case that you spoke of, and I will only refer to it as an illustration, in the Dutton cut; there you were going to agree with the contractor, I understood?—A. I was not going to agree.

Q. The Chief Engineer?—A. I wanted the Chief Engineer to make an arrangement and get it certified, that is approved by an order in council.

Q. That is what I wanted to have you explain?—A. That was something different altogether.

Q. That is where an action, whatever it was, amounted to a change in contract?—A. Change in contract.

Q. You had no power to make it?—A. No.

Q. Nor had Mr. Lumsden power to make it?—A. No, he had not.

Q. It had to be done by an order in council?—A. Yes.

Mr. MACDONALD.—I have some questions to ask him, but before I do it, Mr. Chrysler, I want to call your attention, as representing the public, and to a certain extent advising the committee, to statements that appear in the Toronto *News* of last night, entitled, 'Startling Conditions on the Transcontinental,' and containing insinuations, if not direct statements, intimating that there was improper classification in section A. Personally, as a member of the committee, I regard that as pertinent to the issue before us, by reason of the fact that if these insinuations are warranted as against the engineers who classified in section A, they would be men in whom Mr. Lumsden would be entitled to lose confidence if he was aware of the facts. I want formally to submit the matter to you, and to ask you to look into it with a view to presenting before the committee anything that you may see fit to do with regard to it.

Mr. CHRYSLER (after reading the article).—Part of it, of course, is in Mr. Doucet's district.

Mr. MACDONALD.—Yes, in Mr. Doucet's district.

Mr. CHRYSLER.—District 'A' I know nothing about; we have had no reference to it at all so far, except that some one spoke about the prevalence of muskeg, I think, on district 'A.'

Mr. MACDONALD.—I would be obliged if you would look into it so far as to take it up later.

Mr. CHRYSLER.—Yes.

Mr. MACDONALD.—There is another question. It seems to me, Mr. Chrysler, that where we have in the record here any evidence that was quoted by Mr. Lumsden, which in your judgment was evidence of anything improper, or requiring investigation on the part of the committee, that you should be prepared to submit whatever

you think proper with reference to it or to make such statement at the conclusion of the hearing, that we may be able to deal with the whole matter completely.

Mr. CHRYSLER.—Do you refer to Exhibit 3-A? That is, the evidence taken by the arbitrators?

Mr. MACDONALD.—I notice there the evidence of several engineers which is in Exhibit 3-A., Mr. Lumsden, too, spoke of having passed his judgment upon some statements made there. Personally I would like you to look closely into that, too, with a view of being able to state to the Committee what your judgment is in regard to it, or what you think should be done in your investigation.

Mr. CHRYSLER.—Yes. There is a question there that I wanted to ask Mr. Poulin about. I noted it this afternoon, and found I had overlooked it just now.

Mr. MACDONALD.—I was going to ask him some one or two questions. Perhaps you might look it up in the meantime.

Mr. CHRYSLER.—Yes, very well.

By Mr. Macdonald:

Q. Mr. Poulin, you produced here some exhibits marked 112, containing some statements of estimates comparing the engineers' estimate in District 'F' for solid rock, loose rock, common excavation and train fill on the J. D. McArthur contract; you did not have anything to do with the preparation of the preliminary estimates on that contract, did you?—A. No, sir.

Q. Your connection was first in Section 'B'?—A. The first six months in section 'B.'

Q. Did you hear the evidence given by Mr. Doucet yesterday afternoon in regard to the method by which the estimates were made up on Section 'B'?—A. Yes.

Q. You were present and heard all the questions that were asked him by me on that subject, and the answers?—A. Yes.

Q. Do you agree with his statements as to the facts and condition of affairs?—A. I do, in a sense of the word, that is, with the exception that I had nothing to do with the preparation of the estimates, either District 'B' or District 'F.' The only estimates that I had to prepare were in District 'D' when I was at North Bay for two years.

Q. Were you not assistant district engineer at the time that the Lumsden estimate of $114,000,000 was made?—A. When the estimate of $114,000,000 was made I was district engineer in 'F,' and the estimate marked January 11, 1908, was included in that estimate of Mr. Lumsden. That is to say, I took it for granted that it was, because his estimate was given in April, 1908, and my estimate went in in January, 1908.

Q. That is, your estimate of 'F'?—A. Of a portion of 'F,' the J. D. McArthur contract.

Q. Did you have anything to do with the preparation of the estimates and the portion of Section 'B' upon which the contracts were called for?—A. No, I left before the estimate was made. Only the preliminary surveys had been made at the time, on the south shore. It was from the boundary of New Brunswick to Quebec, and only the preliminary surveys were made, and there had been no estimate made at the time I left. I left in April, 1905.

Q. Does the Macdonnell & O'Brien contract extend across the river to the south shore in Quebec?—A. I don't think it does.

Q. It is all north?—A. It is all north.

Q. Was there any advance knowledge as to the geological conditions of the country through which this railroad was to run, either in 'B' or in 'F,' that was obtainable by the engineers before they made their preliminary estimates?—A. There was none that could be depended upon as a surety.

Q. This was entirely new country?—A. Entirely new country.

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Q. And, outside explorers, there had never been any technical or careful examination of the country for railway or other purposes?—A. Not that I know of.

Q. That involved, of course, a greater amount of uncertainty than would be usual in the construction of a railway through a country that was known?—A. Certainly.

Q. What do you say generally, Mr. Poulin, about this McArthur contract, as to the character of the country through which it runs, in the matter of stone?—A. It is one of the most difficult pieces of railway work that there is on the continent.

Q. That is, difficult in the sense of the tremendous amount of rock that has to be moved?—A. That was encountered; that had to be moved. There are 150 miles which can be considered as the heaviest piece of work that was done in Canada, that is, consecutive distance.

Q. For that distance?—A. Yes.

Q. There is no other 150 miles of railway work——A. That I know of in Canada that compares with that.

Q. In difficulty of construction and in the character of the rock that was encountered?—A. Yes.

Q. Now, when you came to make the estimate in 'F' there had apparently been two previous estimates made by Major Hodgins?—A. Yes.

Q. Did you find in the records the data upon which these estimates were made?—A. That was marked right in the record, in the office at St. Boniface, such as they have marked there.

Q. As estimated in 1906 and revised in 1907, these figures are the quantities taken from what he prepared?—A. Yes.

Q. Had you ever been through that country before in any engineering work?—A. Not in that portion.

Q. Not through there?—A. Well, I was in 1878 on revision of location in the neighbourhood of Wabigoon lake for a distance of about 80 miles from there. That was on the C.P.R. for the government.

Q. But that was not nearly as far north as this?—A. No, not within 40 miles.

Q. You spoke of at least 150 miles of this being the most difficult construction?—A. Yes.

Q. Which end was that?—A. That was about the centre portion of the 250 miles.

Q. What about the portion nearer to Winnipeg?—A. Well, the first 60 miles are comparatively easy—prairie section.

Q. Then 155 of extremely difficult work, and as to the balance, 40 miles, what is it?—A. Well, it was difficult enough, but more mixed material.

Q. I suppose at least 200 miles of this was practically inaccessible country—that is, everything had to be taken in through lake and portage?—A. Well, there was 175 miles of it anyway.

Q. Through a country hitherto absolutely inaccessible?—A. Yes.

Q. Which all added, of course, to the difficulties of the construction?—A. Of getting the supplies in and getting the material and equipment.

Q. I see according to the statement which will be put in as Exhibit No. 116, being comparison between estimate of January 11, 1908 and previous estimate marked "final location," that Major Hodgins had estimated 4,735,745 cubic yards of solid rock?—A. Yes.

Q. Well, what made your estimate to be larger?—A. Because there was quite a portion of the work opened up at the time, and the engineers who were on construction had sufficient data to determine that such and such a cut would turn out to be rock, while previous to that there was only the surface; the ground had not been broken, and they couldn't tell.

Q. There was nothing to indicate that the surface of ground which indicated soil might not be soil for quite a distance?—A. For quite a distance.

Q. Well, now, you estimate 5,690,917, was that estimate for the whole of the work, the whole of the solid rock?—A. Yes.

Q. Up to March 31 of this year there were returned 6,236,996?—A. Yes.

Q. That would be an excess of 546,000 yards?—A. Yes.

Q. How do you account for that?—A. Because at the time that the estimate was made, which was in December, it had not been finally determined whether we would borrow rock to fill in those bays, and the sanction was given later on, which added the 500,000 yards which would be in excess.

Q. But you still have a portion yet to be constructed?—A. No, the rock is all taken out.

Q. The solid rock is all taken out?—A. The solid rock; there is no more to be added to that.

Q. No more to be added to these figures?—A. No, not to the rock that has been returned up to the present.

Q. Yes, I know, but what I mean is, you estimated 5,690,917 yards as being the total amount when the whole thing was completed?—A. Yes.

Q. And you have now 540,000 already?—A. That was returned as work done.

Q. But there still remains yet some work to be done?—A. Yes, but there is no rock to be done, because the track is laid from one end to the other, and the rock is taken out.

Q. Then this 6,236,996 indicates the final return of solid rock?—A. The final return of solid rock.

Q. You say that the reason for that difference of 546,000 yards was due to the fact that you had to take rock to fill up crossings?—A. Crossings of bays and lakes.

Q. You could not get soil?—A. No.

Q. Could you not get soil through that country to do it?—A. No. I might say, even if we could have got soil for filling bays, yet rock will take a slope of one to one, while if you fill in with sand or anything like that, not knowing how far it may run—the bottom of said bays might be mud or blue clay—it might take a slope of three or four to one; then we would have to have a trestle to cross bays. As a general rule it was always calculated to find out which would be the cheapest, and invariably the filling of the lake with rock at once was determined upon, because it came as cheap, and we were certain that way to have a solid road bed when once it was through.

Q. How was it that in Major Hodgins' second estimate he only estimated 2,160 cubic yards of loose rock?—A. Well, that is a thing that I can't explain, and I think it is an error in the sheets that were left there, and he must certainly have——

Q. It must have been a clerical error?—A. It must have been meant for 2,160,000. I give him the benefit of the doubt on that estimate.

Q. Your estimate on the 1st January, 1908, for this was 1,635,127 cubic yards?—A. Yes.

Q. The amount returned was 2,097,932 cubic yards; that is a difference of 464,000 yards more of loose rock than what you estimated?—A. Yes.

Q. How do you account for that?—A. Well, I can only account by the fact that a good portion of the work was done in the winter, and it was returned as loose rock, and we had no boring at the time, and it was impossible to see through the hills unless we had been provided with X-rays or something like that, and that the result is a little over.

Q. In other words, you did not think the country as rough and rocky in 1908 as it turned out to be?—A. It turned out to be that there was so much mixed material.

Q. Having regard to the topography of the country in the preliminary survey, or the conditions as you saw it when you went there, was its exclusively rocky condition apparent?—A. Well, it was in certain portions. In others the surface, where

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it was wooded country, there were large boulders on the surface, and when you come to cuts of from ten to forty feet in depth you can't tell what there is in the interior of those cuttings.

Q. You made no borings?—A. There had been no borings done at that time.

Q. You had no test pits dug?—A. No test pits, and we didn't have time.

Q. Do you agree with what Mr. Doucet said in regard to that—that there would have been no value to the country in making test pits or borings, having in view the fact that the country had decided upon the construction of the road?—A. Well, it is practically impossible to do those things in a survey. You take a cut that is 1,000 feet long; you might take a boring, you might take ten borings—one at every hundred feet—and you might find nothing at those ten borings, still in the intervening space you might find a mass of mixed material, or you might find solid rock, and the only way would be to open up the whole cut. It is impracticable to go to that extent.

Q. Then you agree with him that it would only have cost the country a great deal more money to have gone and made those test pits, and that you would just have to remove the material that was there in the end and return, having spent your money for no good?—A. Yes, certainly, that is exactly correct.

Q. You also agree with him that it is the practice that has been adopted in various places where you have had experience in Canada, which is adopted by the commissioners, to get enough information to enable them to figure out the contracts that were called for?—A. That was the practice. That has always been done in work that I have been connected with in thirty years.

Q. In your thirty years' experience?—A. In my thirty-four years.

Q. Then the common excavation you estimated at 2,326,393 cubic yards; I notice that Major Hodgins estimated in 1907, 2,521,126 common excavation?—A. Yes.

Q. Well, now, the amount returned was 2,225,328 yards—a decrease of 100,000 yards, approximately?—A. Yes.

Q. Do you state, and is it your position, that that reduction was due to the fact that there was more rock in the country and massed material taken out than you had anticipated?—A. No, I think that it was as close as any engineer could make an estimate; within 100,000 yards is very close; and outside of that there were a good many that might have been returned in train fill. You see, there were a good many more yards of train fill.

Q. Yes, I was coming to that; you estimated 1,971,750 cubic yards of train fill, and there have been returned 2,475,377?—A. Yes.

Q. About 500,000 yards more?—A. Yes, and there are still about 200,000 yards to be returned, I think.

Q. The train fill is paid for under the contract at what figures?—A. At 52 cents. That was a subsequent arrangement after the contract.

Q. Does that include merely earth? It includes material of all kinds?—A. Well, it is used as train fills that they can load, but it also includes building of temporary trestles, which have to be erected over gaps in order that the train may circulate across the said places.

Q. You made that estimate in January, 1908; how much of the whole of that contract of 250 miles had you made of close and complete location surveys?—A. It was all done, the final location, but a change of three miles which was done during that month.

Q. After you had made the estimate?—A. No, it was being made when the estimate was being taken; practically over the final location.

Q. The final location had practically been made?—A. Yes.

Q. Have there been any diversions for the purpose of grade or curvature or anything of that kind materially since?—A. No, not since that time.

Q. Except the changes that were made in connection with taking over the 11½ miles from the Grand Trunk?—A. No, that is not included in the estimate.

Q. That was not included in the estimate?—A. No.

Q. In neither of them?—A. In neither of them.

Q. So that the information you obtained from the location survey was simply to know that the road was going to take a particular course?—A. Yes.

Q. You had no specific information in regard to the character of the soil through any ulterior method other than what you say when you went over the surveys?—A. And the cutting that had been opened up especially in the west end. Practically over 60 miles on the prairie section was already completed. That estimate on division 9, which is a part of the work, agreed within $2,000, because the work was practically all done at the time, that, is on the first 60 miles west, the western portion from Winnipeg east on the prairie section. That had been almost all completed before I went up there, but still it is included in the estimate. The portion that was not, it was, say, from there east.

Q. Through the difficult portions?—A. Through the difficult portion. It was opened up here and there, that is all.

Q. We have also a statement here from you in which you deal with the question of the excess in cost as compared with the estimate?—A. Yes.

Q. The tenders which were let before you went there?—A. Yes.

Q. But you had nothing to do with that estimate?—A. No.

Q. Major Hodgins' estimate was changed; his second estimate provided or estimated a greater cost than the first one did?—A. A lesser cost.

Q. The second one?—A. The second one was something like $12,000,000 or $1,000,000 less than his first one.

Q. That would be so if you take the ridiculously small amount of loose rock? —A. Loose rock, well, of course I am taking the figures that he gave out.

Q. Of course that small amount of loose rock must of necessity have been an error?—A. It must have been an error.

Q. It could not be possible to have any such calculation?—A. No, he had already returned over 428,000 yards when he left.

Q. Well now, just take up that copy and explain to me so that we can get it down here, what its contents are. The first estimate, the original estimate, upon which tenders were based, whose estimate is that, Major Hodgins?—A. Yes, that is $13,000,000 and added to that is $3,000,000 for permanent way which he didn't put in.

Q. That is the statement you gave us before?—A. Yes.

Q. Making $16,000,000?—A. Yes.

Q. Well, the cost as compiled from the divisional engineers' percentage reports, that is the cost stated in the details which Mr. Chrysler has, is $18,974,259?—A. Yes.

Q. Making an excess of cost by divisional engineers' percentage reports over the original estimates of $2,974,259 over Major Hodgins' original estimate?—A. Yes.

Q. How does that compare with the estimate you made in the year 1908, have you given us that yet?—A. That is not put in there.

Q. It would be desirable to have it if we can get the amount figured out in your estimate of 1908 we would have it?—A. It is filed in one of these blue prints, my estimate was $17,584,000, I haven't the exact amount; it was about $17,500,000.

Q. So that your estimate is exceeded by about $1,500,000?—A. Not quite $1,500,-000; about $1,300,000.

Q. Now, this next statement of grading. The grading according to this comparison, that is made with Major Hodgins' estimate?—A. Yes.

Q. And it shows that in grading the cost was $3,373,396 more than what he estimated?—A. Yes, that is the grading alone.

Q. Do I understand that that estimate of Major Hodgins of $13,000,000 is the first estimate he made?—A. Yes.

Q. It is not the second?—A. No.

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Q. We will let that stand for a moment until we get your figures. It was in the autumn of 1907 you went there?—A. Yes, sir.

Q. And work has been going on continuously ever since?—A. Yes.

Q. That is for over two years they have been working?—A. Yes, sir.

Q. In winter as well as in summer?—A. Yes, sir; especially in winter, because the work last summer was practically completed, that is, the grading portion of it.

Q. This work starts from Winnipeg and runs east to where?—A. Lake Superior Junction.

Q. And connecting there with what?—A. Well, with the branch of the Grand Trunk Pacific coming from Fort William.

Q. The construction of this portion of the road under consideration was a matter of great importance and was necessary in order to render possible the operation of the branch from Fort William up to Lake Superior Junction?—A. That is it.

Q. And on to Winnipeg?—A. Yes.

By Mr. Chrysler:

Q. Practically a through line to Winnipeg?—A. Yes, that was the necessity.

By Mr. Macdonald:

Q. And it was well understood that it was the desire of the country the construction of this should be hastened as much as possible?—A. Yes, sir.

Q. I suppose the difficulties of construction in winter time are considerably enhanced in that country?—A. Certainly it is, in every country.

Q. But in that country which is comparatively, as yet, uninhabited, that feature added, I suppose, to the difficulties of the work?—A. Yes, sir.

Q. And to the inconvenience of the engineers in classification and all that?—A. To a certain extent.

Q. In carrying out their duty?—A. In carrying out their duty.

Q. Do I understand that some allowance was made under the direction of Mr. Lumsden in connection with frozen material on account of this work having been done in winter?—A. There was a circular in existence and known to every one of the engineers when I went up there that they were to return frozen material in cuts which were directed to be opened or worked during the winter months as loose rock.

Q. Well, I suppose the same difficulty was had in removing frozen material from these cuts in winter as would be met with in summer in removing rock, that is, it had to be blasted?—A. It had to be blasted, almost, that is, if——

Q. Well, perhaps you might explain that, it will come to one's mind more clearly if you state what are the extremes of cold you had there?—A. Oh, down to 40 degrees below zero.

By Mr. Wilson:

Q. How deep would it be frozen?—A. It would depend upon the depth of snow; in some places it would be frozen a great deal deeper than others, and after the country had been cleared for a certain distance, and after it had been exposed in the fall to the wind and frost before the snow falls to any depth the frost will go down deeper than in places where it is protected.

By Mr. Macdonald:

Q. The same as in any other portions of Canada.

By Mr. Wilson:

Q. But, as a rule, how deep does the frost go?—A. It averages three feet, and in some places it goes down to five feet in depth.

By Mr. Macdonald:

Q. Is it frozen very hard?—A. It is not necessary for it to be frozen to any particular degree of frost; when it is frozen it is hard enough.

By Mr. Wilson:

Q. I think I understood from you that some nights when the work ceased it would be in ordinary condition, and the next morning when you started work you would find two or three feet of frozen material?—A. I don't think there would be two or three feet frozen in one night, but if it was being worked from the surface of the cut, take it for instance in the field if they were ploughing it would be just like it would be in a field where farmers are ploughing, one night's frost would stop them from doing any work the next morning without blasting it; you could not use a pick or you could not plough, and it would be the same if they were working on a cut from the face.

By Mr. Chrysler:

Q. They would blast the surface and loosen it up and then go on with the plough? —A. Yes, but in winter they didn't work from the top of the cut, but simply from the perpendicular face.

By Mr. Macdonald:

Q. That is, the result of handling frozen material, which was done because of the great desire to expedite the work, the cost was necessarily increased over and above the estimate?—A. Certainly, it added to the cost.

Q. Well, you were continually on the work, going back and forth, as far as it was possible to do so after you assumed charge of the district and after you were at liberty from the Hodgins' investigation?—A. As far as it was possible for me to do so after I got through with the Hodgins' investigation, but I was not able to be on the work until about the end of August, because I only got away from here in July, and I was in hospital for a few weeks after leaving here.

Q. But thereafter you went over the work pretty closely? And were you from that time continually on it, going back and forth?—A. I was not out on the work the whole of the time, but outside the time I was in the office I was.

Q. Outside the office work you kept in touch with the work all over the district personally?—A. Certainly, whenever I could leave the office I was on the work.

Q. Would it be possible for any deliberate falsification of the classification to have taken place by your engineers without more than one or two of them being in the conspiracy to do it?—A. I don't think it could have been possible.

Q. Would it be possible for abnormal or unusual classification to have been made, such as hinted at in certain sections of the press of this country, without you and your division and district engineers being in the conspiracy to disregard the specifications?—A. It could not have been unless from the head down to the last man they were all in the conspiracy.

Q. That would also involve the engineers of the Grand Trunk Pacific, would it not? They would have to be in the conspiracy too?—A. They would have to be.

Q. And if there was one honest man in the whole lot from the head, that is yourself, down to the humblest engineer who had any conception about the matter he would have been able to expose that conspiracy?—A. Exactly.

Q. And he would be able to expose it without any difficulty?—A. Without any difficulty.

Q. Now, do you say on your responsibility and on your oath that there is absolutely no foundation for any imputation against the integrity of yourself, or any of your subordinates to your knowledge, in regard to classification?—A. I say so most distinctly.

Q. What was the advantage to the country in having this work carried on in winter?—A. It simply gave to the country the advantage of having communication from Fort William to Winnipeg at least one year sooner than it would have obtained otherwise, and possibly two years.

APPENDIX No. 3

Q. Hadn't this winter work been done?—A. If it hadn't been done, if the work had been carried on at the same ratio of progress that it had been going on when I took charge the grading would not be completed at the present time, I can say that safely.

Q. And the country which has an outlet from Winnipeg to Fort William by the Grand Trunk Pacific as it is now commonly called, would not have had that outlet now, but would have had to wait for one or two years longer?—A. One or two years.

Q. Of course you did not initiate this business of doing winter work yourself, you were carrying out the instructions of the Chief Engineer in doing it?—A. Yes, I was told to rush the work there, and I took the means of doing so.

Mr. CHRYSLER.—The evidence so far in shows that it was commenced by Major Hodgins in a circular at an earlier date which appears there.

By Mr. Macdonald:

Q. Yes, Major Hodgins, of course, began the winter work?—A. I can say that that circular came to my notice only after I had given instructions; I considered it imperative to do so when I went up there to carry on that work.

Q. You were instructed by the Chief Engineer that it was the desire of the country that this road should be built as expeditiously as possible, and if necessary to work in the winter?—A. Yes.

Q. And you carried out those instructions?—A. Yes, and the work was carried on in winter.

Q. Do you agree with what Mr. Doucet says with reference to the fact that it has not been practicable in this country to sink test pits and make bore holes?—A. Certainly I do.

Q. You heard what he read last night as the statement of Sir Sandford Fleming with regard to the practice on the C.P.R.?—A. Yes, I located 300 miles for the C.P.R. and we never sunk any test pits in any of the cuts.

Q. You say you located for the C.P.R., in what year?—A. From 1881 to 1884.

Q. Whereabouts?—A. I located from some point between North Bay and a place called Verner, right up to past Chapleau, 288 miles, or something like that, I had charge of the locating party.

Q. And there was none of that preliminary work done in that location?—A. I never saw any test pits sunk anyway.

Q. Nor any borings made?—A. We had sounding rods, which were the longest poles we could get in the woods to try the depth of some of the muskegs, that is all we carried.

Q. That was to find the depth of the muskegs?—A. To find the depth, and we did not find the depth, we simply reported, 'No bottom found with the means at our disposal.'

Q. And there were no borings to find the depth to which the rock went down or anything of that kind?—A. Never.

Q. Was the practice any different with regard to the construction of the C.P.R. and the construction of this road here?—A. Except this, that we were bound to certain grades; we had 52 feet to the mile and we were limited to a 6 degree curve, or in some places to 8 degree curves.

Q. That is on the C.P.R?—A. Yes.

Q. Whereas on this road you were limited to a ⅝th grade and what was the curvature?—A. There was nothing over a 5 degree curve, and there are only one or two in that district there of that and the grade is compensated, that is on a grade ascending or descending, whichever way it is, if there is a curve; one degree of curvature equals about two feet per mile on any grade, say it is a 6 degree curve on a grade of ⅝ths we had to reduce the grade for the length of that curve to a point equal to 12 feet per mile, which with a 6 degree curve on a distance of one whole

mile would be equal to the resistance to a train going over an ascending grade of 12 feet, so that we have compensation. If we have a curve on a grade we have to reduce the grade of tenths to so much less, so that a train going up the grade will not feel any more resistance than going on a straight line.

Q. That road that you located from North Bay on the C.P.R. went out around north of Lake Superior?—A. It was going in that direction.

Q. Of course the relative difference in the cost between the routes of these two roads would be very great?—A. Very great indeed.

Q. By reason simply of the curvature and the road gradient apart from the condition of the country?—A. Yes.

Q. How many times greater would it make the cost?—A. There would be at least three times the difference in price.

Q. That is apart altogether from the difference in the country traversed?—A. Yes.

Q. You said a moment ago that 150 miles of this McArthur contract was the heaviest in America to your knowledge. There has been a popular idea in Canada that on the C.P.R. north of Lake Superior was the heaviest rock work ever done in Canada. How does the work on the McArthur contract compare with the work on the C.P.R.?—A. That portion is heavier than the work on the portion of the C.P.R. along Lake Superior.

Q It is?—A. Yes. On Lake Superior you would find some cliffs where it would run up higher, but they are only side cuts, while we have full cuts up to 50 feet high and 800 or 1,000 feet in length, and there was a greater amount of rock blown off in that portion than there was in the same distance on the C.P.R. north of Lake Superior.

Q. Well, if I have that estimate of yours, as far as I am concerned, I am through?—A. The estimate was $17,500,000 odd.

Q. I want to get the date and the explanation of the difference.

By Mr. Chrysler:

Q. With reference to this Exhibit No. 111 I want to refer to two of these figures. In the second column there are collected together the solid rock quantities omitted, amounting to 1,425,000 cubic yards. I don't remember that you have explained what those omitted items consist of, they are shown here as rock borrow, 550,000 cubic yards?—A. Yes.

Q. Some explanation has been given of that?—A. Yes.

Q. Of the 385,000 cubic yards one foot below grade in rock cuttings?—A. Yes, that is from one end of the line to the other, that was not taken into consideration in the original estimate.

Q. Well, you explain that?—A. Yes.

Q. Because the reason that was given, I don't know whether you gave it, I think it was given by Mr. Doucet, but you may tell us whether it applies to District F; was that the original estimate of quantities that was made before the specification was in the hands of the engineers providing for excavation one foot below grade?—A. Well, that may have been one of the reasons in that case, but the fact remains that the quantities were not taken out that way.

Q. They were not taken out one foot below grade, whether that was the reason or not you do not know?—A. There was a letter of Major Hodgins on record explaining that it had not been done.

Q. Then perhaps you can speak from your own experience in District 'D.' Did you estimate the rock cuttings one foot below grade?—A. In District 'D'?

Q. Yes?—A. Yes.

Q. You did?—A. Yes.

Q. Then the extra width in cuttings for sidings, 490,000 yards, I am not sure

whether that has been explained at all. What causes that addition to the quantity? —A. It is that there are sidings at every seven miles along the 250 miles, and that at each siding there are two extra tracks, so that instead of a width of 20 feet in a cut, it requires a width of 42 feet.

Q. Now, wait a moment. The 20 feet you speak of, is that fixed by the specification as the width of the main line?—A. That is the width of the main line for one track.

Q. And to put alongside of that two sidings requires a rock cutting to be excavated 42 feet wide?—A. Forty-two feet wide.

Q. Or 22 feet additional?—A. Yes.

Q. In the width of the cutting?—A. Yes.

Q. What is the length of the sidings provided for?—A. 3,500 feet.

Q. How does that compare, for instance, with the original construction of the C. P. R. as to the length of the sidings?—A. The length of the sidings must be, as a rule, double the length they were on the C. P. R. the time of the original construction.

Q. On any other railway that you have been familiar with, what is the length of the sidings?—A. The usual length now—they are making them longer, especially wherever it is a through or trunk line, and it is according to the freight that is expected to be carried.

Q. What is the length of sidings ordinarily in constructing railways in this country prior to, say, 1905?—A. About 1,500 feet.

Q. What was it in 1890?—A. In 1890——

Q. What was the length provided for in the estimate for the construction of new railway—the length of siding?—A. There it is; it depends altogether. Now, you take the Ottawa, Arnprior and Parry Sound Railway west of the Madawaska river, where the grades were one per hundred, the sidings were about 1,800 feet on account of the fact that the trains were not expected to be more than a certain length to hold say forty-five cars; east of the Madawaska river, where the grades were low, they made the siding about 2,700 feet. It depends altogether on the trade that is expected.

Q. These sidings are made of a uniform length of 3,500 feet?—A. Yes, sir, that is the standard.

Q. Why were you building sidings in rock cuttings. Don't you try to build sidings where you don't have to make cuttings?—A. Wherever it is possible we do, but we have to take into consideration the grades. We get the sidings on the level grade as much as possible, and take a certain distance one from the other, about seven miles distance—the place was always selected after consultation with the assistant chief engineer or Chief Engineer; places that were decided upon were considered to be the cheapest that could be used.

Q. Is not that the fact that you would endeavour to select points for sidings where the cuttings would be avoided?—A. Certainly we would.

Q. And of course the location of the sidings, I suppose, was fixed in consultation with the engineers of the Grand Trunk Pacific?—A. Well, I understand so. A list was submitted to the Chief Engineer and he sanctioned it.

Q. You have really not answered my question directly. I am afraid to put it that way. Is the amount of rock cuttings that is shown there usual in ordinary country where you have to provide for sidings?—A. That is a difficult question to answer. It is usual where it is a case of necessity. It is that the sidings have to be made wherever the country suits and wherever they are required.

Q. Now, I want to direct your attention to a matter that I overlooked, and if you don't know about it perhaps we will see if we can get the evidence from Mr. Richan. There is some reference here at some length to the work from station 1726 to 1742?—A. Yes.

Q. It is referred to in Mr. Lumsden's list and there is there shown 7,049 cubic yards of loose rock, the remainder common excavation—that is the note with regard

to it—muskeg, all common excavation. He was examined by Mr. Moss at considerable length and at page 466 this question is asked him and this answer given:—

> Q. If an engineer ordered that to be taken and it was frozen, it should be allowed as loose rock?—A. If he was made to do it when it was frozen, possibly he should, but I don't see why he should be made to use muskeg unless it was a case of that particular part being the only part unfinished or something of that kind.

Now, do you know anything about that particular place that he is speaking about there?—A. I think I know very well. That work I think was done in the first winter that I was there. I don't know whether it was the first winter, but from what I understand and what I know of the country, my idea is that I don't think that could have been carried on in the summer on account of it being practically under water, almost under water.

Q. Are you speaking from recollection?—A. I recollect the place very well; that is just at the west end of the siding there.

Q. Is it on Mr. Richan's division?—A. On Mr. Richan's work.

Q. Was it a place where the work was done in the winter?—A. That is my impression at the present time. He will be able to corroborate it or say what it was. That is my impression at the present time.

Q. And at the bottom of page 469 Mr. Moss again asks:—

> Q. This muskeg did not differ in the form of the return from any of the other return?—A. No. That is the reason I say—when I saw muskeg returned as one-half loose rock—I objected to it.
>
> Q. Without enquiry of course?—A. Without enquiry as far as I know.

I am asking you for an explanation. You say that is your recollection of it?—A. That is the explanation.

Q. Probably Mr. Richan will have a better recollection of it?—A. He was over the work more than I was and he will be able to explain it better, but I think it could have been easily found out at the time Mr. Lumsden was there if he had asked for it.

Q. Now, you have been asked at considerable length by Mr. Moss about this question of the allowance of frozen material. At page 469 again, in another place, Mr. Moss says:—

> I am going to offer evidence to show that a large part of this was frozen material done under Mr. Poulin's instructions, because of the necessity of rushing the job through, and I want to show that Mr. Lumsden has not taken that into consideration at all?—A. I am prepared to say that as far as taking frozen material into consideration I did not.

Now, so far we have not got any evidence as to the amount of frozen material included in this spot, but I ask you now to tell us what amount of the material that is contained in that whole district was removed and paid for at a higher price than common excavation because it was removed in winter and was frozen material?—A. Why, I could not give you any idea off hand in that way.

Q. You could not answer?—A. No.

Q. You have not examined the returns?—A. No.

Q. Is there any way of tracing now the quantity of frozen material?—A. It could be done, but it would take quite a while.

Q. Because we have the returns on the profile; it is coloured?—A. Each month that the work was done a man could trace it by the estimate.

Q. If we found on the profile that the work was done in May, June, July and August, we might be quite sure it was not frozen material?—A. We might, but at the same time I can say this, that when there was such work returned, and it was explained to me, there was always a chance to take monthly estimates to show that

there had not been an unusual proportion in comparison to the amount of work that had been done during the month.

Q. I think you said earlier in your examination that you followed the rule which is intimated by Major Hodgins in his circular, that only the actual ground frozen was allowed as loose rock?—A. That is all, that is the rule.

Q. I think that is all just now.

By Mr. Macdonald:

Q. I just wanted to clean this up. In his statement here, of which you have a copy, you have made a comparison between the estimate originally made by Major Hodgins and the ultimate cost as returned to March 31?—A. Yes, sir.

Q. I have here a blue print containing a statement in detail showing the comparison between your estimate of 1908 and the estimate of Major Hodgins?—A. Yes, sir.

Q. This blue print marked Exhibit No. 116 has been handed to me by your people and contains a statement in detail of every item which enters into the estimate?—A. Yes, sir.

Q. And shows a comparative estimate in regard to all those items between you and Major Hodgins?—A. Yes, sir.

Q. In order that we might have this whole thing complete can you not make up a similar statement showing the comparison between your estimate, the cost of construction and the final return similar to that?—A. Yes, sir.

Q. If you could get that done and hand it in, say to-morrow, then we would have the data in regard to that pretty well complete and we will be able to see at close range what the comparison is?—A. Yes, sir.

Q. I might suggest to you in making it up—you see that the cost as compiled from the division engineers' accounts is so much. That includes not merely the payments made on account of excavation of solid rock and loose rock, but all other payments?—A. Yes, it includes the estimate of the rails, angles and fish plates that I had put in at the time I made that estimate. It may not be the exact amount that has been paid since for the permanent rails.

Q. What I wanted to get at is that you would be able to locate definitely how much proportion of that you would have appropriated to other things beside excavation or classified material?—A. Yes, but it would be the same, because even if the amount paid direct from this office in Ottawa was larger or smaller than what I put down there, it would have to be added to the estimate in both cases.

Q. Still, for our purpose, if you eliminate those extraneous charges it would be better?—A. Well, I could take only the gradings if you wish.

Q. Yes, and account for the difference and the extras in whatever way it can be accounted for and put it in on a statement like that?—A. All right, I will prepare that for you to-morrow.

Witness discharged.

GEORGE F. RICHAN, sworn:

By Mr. Chrysler:

Q. You have given your full name to the reporter?—A. Yes, George F. Richan.

Q. Are you in the employment of the Railway Commission?—A. Yes, sir.

Q. Are you still a divisional engineer?—A. Yes, sir.

Q. Of what division?—A. 5 and 6.

Q. In District 'F'?—A. Yes.

Q. Have you been continuously divisional engineer for divisions 5 and 6?—A. Only division 5 until the beginning of this year.

Q. I thought so. Then, when you were appointed as divisional engineer of division 5?—A. At the end of 1906.

Q. That was before construction commenced, at the beginning of construction?—A. Just about at the beginning of construction.

Q. Was there another divisional engineer on division 6?—A. Yes.

Q. Who was that?—A. McIntosh at that time.

Q. At that time, at the end of 1906?—A. Yes.

Q. Now, you have both divisions 5 and 6 since the beginning of 1910?—A. Yes.

Q. The stations begin to number, at least one series of numbers, begin at Superior Junction or near there?—A. Near there.

Q. How far from there?—A. The beginning of the division is station 148.

Q. Does that include the 11 miles that were spoken of that have been taken over from the Grand Trunk Pacific?—A. No.

Q. What are the numbers upon that 11 miles?—A. I don't know.

Q. Your first station is 148?—A. Yes.

Q. They number westerly up to what number?—A. 2468.

Q. That is on Division 5?—A. Division 5.

Q. Then what are the stations on Division 6?—A. About 4753, mile 90.

Q. That is in the same series of numbers?—A. Yes, sir.

Q. Division 6 runs from 2468 to 4753, about. Well, that will help us just to identify the numbers that have been given in the evidence so far as they occur on your division?—A. Yes.

Q. Now, taking Division 5, which is the one that has been constructed under your supervision, you have been there all the time since the work commenced on it. There are 2,320 stations. How many miles is that?—A. About 44 miles.

Q. How many residencies are there on that division?—A. Four.

Q. Are they numbered consecutively?—A. From 19 to 22.

Q. 19 to 22?—A. Yes.

Q. 19 is the most easterly?—A. Yes.

Q. 19, 20, 21 and 22?—A. Yes.

Q. Where did the work begin on your division?

By Mr. Macdonald:

Q. Is that situated about the middle of the road?

Mr. CHRYSLER.—The east end.

Mr. MACDONALD.—The extreme east end.

Mr. CHRYSLER.—Yes. What was the last question?

(Question read by the reporter).

—A. Somewhere about mile 43. It began about two months before I went there.

Q. Near the west end of your division?—A. Yes.

Q. How did you come to attack it at that place. Was it convenient of access to some point on the C.P.R.?—A. Yes.

Q. What point?—A. From Dryden.

Q. I suppose then it was the nearest point on the line on your division from Dryden?—A. Yes, sir.

Q. Did you have to build a road in from Dryden to get there?—A. We had to extend a road.

Q. There was a road partially built?—A. Partially built.

Q. For what distance?—A. About 12 miles.

Q. And how much more did you have to build on that 12 miles?—A. About 6.

Q. That made you 18 miles from Dryden when you got on to the right of way?—A. Yes.

Q. What work was done in the winter of 1906 and 1907, what sort of work—rock cutting?—A. Rock work.

Q. When was the excavation finished on that division, about? It does not matter for the day of the month?—A. About the end of 1908 in the winter.

Q. When was the track laid?—A. During 1909.

Q. During 1909?—A. Yes.

Q. Did you have Mr. Lumsden on your division at any time when you were there prior to the visit which he paid with the arbitrators about the 1st June, 1909?—A. No, sir.

By Mr. Macdonald:

Q. He had not been there at all?—A. Not to my knowledge.

By Mr. Chrysler:

Q. Generally, what is the character of the work on that division?—A. Mixed material and ledge rock.

Q. Mixed material?—A. Yes.

Q. What does the mixed material consist of?—A. Everything; clay, boulders, gravel and sand.

Q. Are there many cuttings?—A. About 150.

Q. In the division?—A. In the division.

Q. Are they heavy as a rule?—A. There are some quite heavy cuttings.

Q. Have you any muskeg or swamp land?—A. Yes.

Q. Some?—A. Yes.

Q. Do you cross any lakes in the 44 miles?—A. We cross some bays or lakes.

Q. Was much of the material moved in winter?—A. Yes, sir, considerable.

Q. Did you have in your division any cases where common excavation was taken out anywhere and returned as loose rock on account of its being in a frozen state?—A. There were some cases where frozen material was returned as loose rock.

Q. I suppose you received the circular which has been put in here from Mr. Lumsden with reference to that?—A. Yes, sir.

Q. And you acted upon it?—A. Yes, sir.

Q. What I wanted to know was, rather, whether it occurred frequently in your division, whether it amounted to anything serious in respect of quantity in your 44 miles?—A. It was not very extensive.

Q. Have you looked at the stations that Mr. Lumsden refers us to as occurring on your division?—A. Yes.

Q. And his comment upon them?—A. Yes.

The committee adjourned at 10.30 p.m. until to-morrow.

THURSDAY, April 21, 1910.

The committee met at 11.15 a.m., the Chairman, Mr. Geoffrion, presiding.

The examination of Mr. Richan resumed.

By Mr. Chrysler:

Q. Mr. Lumsden has referred to a number of points on your division which he says are open to criticism for various things. If you have the lists there before you you will see that there are five stations named in the right hand column at the top of page 79. Which of these are on your division?—A. The first four.

Q. Then on page 80 there are five items, the same ones?—A. The same ones.

Q. And the first four are the same four? In those two lists of the stations in your division the only one we have left out so far is the barrow pit at Rocky lake. But that is not on your division?—A. That is not on my division.

Q. Then there are 'Illustrations of points at which material returned as loose rock should have been returned as common excavation.' That is the next list. On page 80 this list is given and the details are set out on page 81. Now, will you look

and tell us how many of these stations are on your division, counting from the top down?—A. All except the last one.

Q. That is nine. So that we have to turn to page 81 for the details of the same list, nine of these stations are on your division and we will have covered everything that is mentioned in the lists so far except borrow pits. At the foot of page 81 is to be found 'Illustrations of places where cross-sections showing ledge rock were erroneous.' Which of these are on your division?—A. I think the first four.

Q. The first four, I should say, if these numbers are of the same series?—A. Yes.

Q. The bottom stations 1188 to 1171, I take it, are of the other series?—A. I think so.

Q. Well, then, the same stations are repeated at page 82, and the first, the second, the fifth and the sixth I think are on your division?—A. The first, second, sixth and seventh.

Q. They are not arranged in the same order. Well, then, at the foot of page 83 are to be found the details and the list of cuts is as given in the middle of the page. Which of these are in your division?—A. The first and fifth I think.

Q. Then at the top of page 84 appears 'Illustrations of places where excessive overbreak allowed.' Are any of these stations on your division? I don't think there are any of them. The low numbers are on the other series?—A. Those low numbers are on the other series.

Q. Well, then, we have got pretty nearly the scope of your work. Some of these stations, you have observed, figure two or three times in different lists?—A. Yes.

Q. Owing to the classification which was made of the items. We may as well take our old friend, station 553 plus 80 to 566, and we will clear that up. What sort of a cutting was that, Mr. Richan, do you remember?—A. I remember the cutting.

Q. Where was it situated?—A. On the south shore of Lost lake.

Q. Somebody told us the cutting there was 1,200 feet long. What does it show in the profile?—A. (After examining profile.) 1,200 feet altogether. Half of it is a side cutting.

Q. About 600 feet of side cutting?—A. 600 feet of side cutting.

Q. And 600 feet through cutting?—A. Through cutting, yes.

Q. Let me see the profile, please (profile produced), of the 1,200 feet on the profile showing the centre line as other witnesses have explained, 600 feet is at which end?—A. The east end.

Q. 600 feet at the east end is through cutting?—A. Yes.

Q. And how much appears there as a fill?—A. There is about 600 feet more.

Q. About 600 feet more shown on this profile would appear to be fill as shown. What was it, in fact?—A. It was a side cutting.

Q. Well, was the line changed or was that because the side slope was above grade?—A. I don't understand the question.

Q. How could you have a cutting where this profile shows a fill?—A. It is a fill on the centre and a cutting on the side hill.

Q. For 600 feet?—A. Yes.

Q. Have you cross-sections of this place here?—A. There are three sheets in as exhibits now.

Q. Will the colours show the work done in each month? What does the black on this represent (referring to profile)?—A. On that profile the black represents all the work done in 1907.

Q. That is up to 31st December, 1907?—A. Yes.

Q. That closes out the 1907 work?—A. Yes.

Q. It is intended to include all the months up to that date?—A. Yes, to prevent repetition of colours.

Q. And can you tell us from the colour, if any part of the remainder was done

during the winter months?—A. (After examining profile) January to June was worked continuously.

Q. The work lasted from January, 1908, till June?—A. Yes.

Q. What was the material in that cutting?—A. Gravel and boulders. What we call assembled rock.

Q. Was there any ledge rock?—A. No ledge rock.

Q. Now, the figures showing the return, I have no doubt up to June, 1909, appear in the left hand column at the foot of page 82 (reads): 'S.R. 4,730S.' What does 'S' mean? That is Mr. Lumsden's note?—A. I think it is intended to mean assembled.

Q. S.R. 4,730S, and the S you think means assembled?—A. Yes.

Q. Loose rock, 9,672; common excavation, 2,807. Have you anything yourself to show how that cutting was returned?—A. I have the same quantities.

Q. The quantities are all on that profile, are they?—A. Yes.

Q. Is there any note there to show what solid rock is composed of?—A. Assembled rock and boulders are given.

Q. I suppose you had this profile along with you when Mr. Lumsden examined you in June, 1907?—A. Yes.

Q. Mr. Lumsden's note is taken from these figures on the profile, I suppose?—A. I think those figures on the profile were a little earlier. They show a little difference in the common excavation.

Q. You are quite right. The amount of common excavation he had in his notes was 2807?—A. Those figures were taken from the latest estimates.

Q. And the profile shows only 2443. That difference is of no importance except that it shows that Mr. Lumsden's figures are later, probably?—A. Yes.

Q. Than the figures on your profile?—A. Yes.

Q. Where do you show that this was assembled rock and boulders?—A. You could not tell from this, from the profile.

Q. I thought you said there was something there, that you read some note?—A. Oh, yes, there is a note 'assembled rock and boulders.'

Q. 'A.S.R. and B.' That means that what is classified here as solid rock 4730, was assembled rock and boulders?—A. Yes.

Q. Who is the resident engineer there?—A. McHugh.

Q. Did you examine Mr. McHugh's return from time to time of the material in this cut?—A. Every month.

Q. Well, what do you say as to the propriety of the return as to the solid rock which was really not solid rock, or ledge rock, as we have been calling it, but assembled rock and boulders?—A. Masses of rock.

Q. What do you say?—A. The quantity is very reasonable to me.

Q. Do you mean the quantity returned as solid rock?—A. The quantity returned.

Q. And how was the amount of loose rock arrived at? What material was that?—A. Frozen material and a strip of loose rock.

Q. A strip of material that was actually loose rock no matter when excavated?—A. Yes.

Q. And other material that would have been common excavation if excavated in summer?—A. Yes.

Q. But was really excavated in winter. Can you separate that? How much of that loose rock was allowed for because it was removed in winter and was frozen?—A. I could not separate it.

Q. You have nothing to show that?—A. I have nothing to show.

Q. Then the result of what you say about that is that the solid rock is right. The loose rock is also right, but subject to the comment that it contains a certain amount of frozen material excavated in winter?—A. Yes.

Q. Which would have been common excavation if taken out in summer. Why

was it taken out in winter, was there any special reason for it?—A. All cuts near the east end of the work were rushed to prevent the holding up of track laying.

Q. It was to prevent the holding up of track laying?—A. Yes.

Q. Were the east and west ends ready for track laying?—A. The west end was ready.

By Mr. Moss:

Q. Coming down to Lake Superior from the west?—A. Yes.

By Mr. Chrysler:

Q. Had you any special instructions about pushing the work in winter?—A. Yes.

Q. From whom?—A. From Mr. Poulin.

Q. And that was the winter of 1907-8—A. Yes.

Q. Does your profile show the quantity excavated in the winter months, the quantity of loose rock?—A. No. I could not tell from this.

Q. Can you tell us which are the cross-sections on these stations that you said were put in?—A. 70, 71 and 72 are the numbers.

Q. And you finished the excavation there in June?—A. Finished in June.

Q. How much longer would it have taken to finish if you had not worked through the winter? Would you have been able to finish in the season of 1908——?—A. No.

Q. If you had delayed taking out the common excavation until the summer?—A. No. If we had waited until the frost was out of the ground we would have had but a short time before the next winter's frost.

Q. When is the frost out of the ground so that you can work it?—A. About June, the 1st of June.

By Mr. Moss:

Q. And does the frost set in again about the middle of November?—A. In October or the 1st of November.

Q. It starts to freeze up again then?—A. Sometimes the middle of October.

By Mr. Chrysler:

Q. Those are the three cross-sections on the portion that is shown as fill on the profile (handing witness Exhibit No. 70)?—A. No. These are farther east.

Q. What about 71 and 72 blue prints?—A. There is neither one of them on that portion.

Q. These are all at the east end of the cut, where the profile shows the cutting on the centre line?—A. Yes.

Q. What was the nature of the material that was allowed as solid rock?—A. Masses of boulders cemented together.

Q. Did you bring your own judgment to bear upon the classification of the material?—A. Yes.

Q. How was it done? Did Mr. McHugh make his return and submit it to you, and did you then examine the locality, or did you rely upon your previous knowledge of it?—A. I examined the cut while the work was in progress with Mr. McHugh, and showed him what I considered came under the head of solid rock; then he measured all material similar to that I showed him.

Q. Then the return was made in accordance with your previous instructions?—A. Yes.

Q. Not made by him in the first place and submitted to you for——?—A. Well, in some cases, some that was returned at first, and I looked over it afterwards.

Q. Then Mr. Lumsden visited the division and you were with him; what took place when Mr. Lumsden was there? Did they visit this cutting, 533 plus 80 to 556?—A. Yes.

Q. Was there any discussion in your presence about it?—A. Nothing in my presence.

Q. You don't appear to have been asked any explanation, according to the statement that is printed here (Exhibit 3A)?—A. No.

Q. You have looked over that recently?—A. Yes.

Q. So far as I can see, nearly all your evidence is taken up with an inquiry about cutting at 178, and a question about 459 plus 461·77, which apparently is not in Mr. Lumsden's list; perhaps he was satisfied with the explanation?

Mr. Moss.—You remember Mr. Lumsden said he did not base any loss of confidence on that statement of Mr. Richan's.

By Mr. Chrysler:

Q. But I was going to say, Mr. Lumsden at the bottom of page 45 asks this question:—

> Q. The cut at 459 plus 461·77, do you recollect that cut?—A. I cannot without the profile. That is a smaller one in the muskeg.
>
> Q. Do you consider that all loose rock, with the exception of the common excavation?—A. I am not sure about the quantity, but I consider it mostly loose rock.

Now, apparantly nothing now turns upon that, and all the rest of the inquiry from you was directed to station 178. Now, have you got the profile of station 178?—A. Yes, sir.

Q. Is there a long cutting there?—A. Yes.

Q. What are the stations from east to west?—A. 160 to 187.

Q. 2,700 feet?—A. Yes.

Q. Is there any peculiarity about 178? Is it any different from the rest of the cutting—any special feature at 178?—A. It is in the deepest part of the cutting.

Q. Mr. Schreiber asks you this question:—

> Q. Did you particularly examine the cutting at station 178?—A. Yes, sir.
>
> Q. Did you find anything unusual about that as regards the return as solid rock? Have you at any time since?—A. Since the cutting was finished, it does not appear to be the same, but I remember at the time I was there it seemed quite justified.

Now, if in reading these answers of yours you have any fault to find with the way your answer is taken down, please tell me?—A. Yes. I don't acknowledge this copy as being a correct statement of what I said.

Q. Why? Was more said than appears here?—A. Yes, there are omissions which destroy the sense.

Q. As I go on can you tell me where you made a different or fuller explanation; did you make one here?—A. It has been some time since. I don't know as I could remember now.

Q. What do you say as to that answer:—

> A. Since the cutting was finished, it does not appear to be the same, but I remembered at the time I was there it seemed quite justified.

Is that the fact? Does it express the whole truth?—A. Yes.

Q. Then before we go any further let us see what that cutting showed?—A. 15,152 yards solid rock; 23,524 loose rock; 5,079 yards common excavation.

Q. Any comments as to whether solid rock or assembled rock?—A. Assembled rock and boulders.

Q. It was all assembled rock and boulders?—A. Yes.

Q. Shown by your profile?—A. Yes.

Q. Did they see your profile? Was that before them at the time?—A. I don't know whether they looked at it or not.

Q. Did they ask whether it was returned solid rock or loose rock?—A. Yes.

Q. Did you tell them it was assembled rock and boulders?—A. I gave them the quantities—the assembled rock and boulders.

Q. Was that note there at the time, in June, 1909?—A. I think it must have been.

Q. Where is the summary?—A. That is it in pencil.

Q. You have written here, 'Ass. R. and Bou.'; I don't know what your abbreviation is?

Mr. MACDONALD.—You are taking him over the cuts that are referred to in that arbitration?

Mr. CHRYSLER.—Yes. There is only one.

By Mr. Chrysler:

Q. (Reading from page 93, Exhibit 3A):—

> Q. 'Do I understand you, that you say the rock barred* at 10 feet above grade, 12 feet at 178 and at another point 14 feet?—A. I could not say if it was 10 or 12 feet, I should judge it was down to grade. It was nearly all rock. Rest were boulders.'

Now that question seems to be based upon some cross-section showing ledge rock; I don't know whether it was or not; what was the occasion for that question? What does it mean by saying:—

> Q. 'Do I understand you, that you saw the rock barred* at 10 feet above grade, 12 feet at 178 and at another point 14 feet?'

Is that word 'barred' wrong?—A. I think so. I don't know what it meant.

Q. Would it be 'bared'?—A. It may have been.

Q. You don't remember, so as to correct it from memory?—A. No.

Q. What does your answer mean:—

> A. I could not say if it was 10 or 12 feet, I should judge it was down to grade.

A. I guess that is in answer to another question, likely.

Q. You think that does not refer to the question that is there?—A. I think each one of those sentences is an answer to a different question. They don't make sense as they are.

Q. You cannot restore for us what the sense was intended to be, and you say that they are not intelligible as they are; that is, the answer there is not in reference to the question: you use the term '12 feet' 'I could not say if it was 10 or 12 feet. That occurs in the question; the rest of it may not refer to the question—'I should judge it was down to grade.' You don't understand what that means?—A. No. I think 'I should judge it was down to grade' was where the excavation was at a certain time I was there.

Q. As if a question had been inserted there—'Q. How far down was the excavation when you saw it?'—A. Yes.

Q. (Reading) 'It was nearly all rock. Rest were boulders.' Have you the cross-section of 178 here?—A. No.

Q. (Reading):—

> 'Q. You led us to understand then that these massive boulders were just in the prism as taken out in the cutting?—A. I do not know, but they showed between the prism.'

What do you say as to that question and answer? What does it mean?—A. They wanted to know if all the rock and the boulders were within the prism section.

Q. And not behind the slope?—A. And not behind the slope.

Q. And what does your answer mean?—A. It means that they were there in the section, whether they were behind the slope or not.

Mr. RICHAN.

*So printed in 1st Edition. In the original

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Q. That they were in the cutting, whether behind the slopes or inside the slopes?—A. Yes.

Q. Then you were asked:—

'Q. Would you not think it strange if there were not boulders on either side of the prism of that cut?'

That is, in the side wall; that is the meaning of your answer?—A. Yes.

Q. (Reading):—

'A. I think there are boulders beyond the prism of that cut. I think they are yet. Of course the cut was wet and of soft clay, so that they would run down that way.'

What does that mean?—that they would fall out of the wall of the cutting and slip down to the bottom?—A. I think that refers to another part of the cut—another question.

Q. (Reading):—'It was frozen there. There were men working up to their knees in water?—A. It is quite apparent that those are answers to different questions.

Q. You say that the answer shows that it consists of several answers to different questions?—A. Yes, because if it were frozen they could not get to their knees in water.

Q. That seems to have occurred to Mr. Schreiber, because he says:—

'Q. How would they be up to their knees in water if it was mostly all rock? Would they be in the wet or standing on rock? As I understand you, you say it was assembled rock?—A. Yes.

Q. Well, if it was assembled rock, how could they be up to their knees in water? Explain to us what assembled rock is?—A. The cut was filled with boulders, but the spaces between were filled with earth.

Q. What do you call spaces between boulders. Tell us what distance apart rock would be to be assembled rock?—A. They were touching. It would be the same as if a pile of rocks were put together and soft clay poured into them.'

Is that answer right?—A. No, I don't think so.

Q. What is wrong with it?—A. It is referring to a particular spot.

Q. A particular portion of the cutting?—A. Yes.

Q. That they were touching? It is not true of other portions?—A. No, not of all of them.

Q. Did they make a digging on this cutting, 178?—A. Yes.

Q. Were you there when it was done?—A. Yes.

Q. Mr. Lumsden has described that digging, and where it took place; what was in the pit that they dug? Did you see it?—A. Yes, they tried the slope several times; struck solid rock every time until they found a place between two boulders, where they could dig a narrow hole with a pick; took out that material and tested it by rubbing between them with the fingers, and judged the classification as far as I could see.

Q. Didn't they dig any more places than one? How many places do you think they dug in that cut?—A. I don't know how many places now.

Q. And do you say they found solid rock in several places?—A. Yes.

Q. Would you like to pledge your oath as to the number of places that solid rock is found in that cutting?—A. No, because I don't know exactly how many places they dug in.

Q. How many places did they not find solid rock?—A. I could not say that either, for the same reason.

Q. But you saw one place where they did not find solid rock?—A. Yes

Q. Between two boulders?—A. Between two boulders, yes.

Q. Were there boulders in the pit that they opened?—A. Yes.

Q. And what was the interval between the boulders?—A. It was less than a foot.

Q. I suppose you can't give us any explanation of the fact that this cutting 178 is not in Mr. Lumsden's list? I don't remember whether he was asked or not. Has the classification of that cutting, so far as you are aware, been objected to or accepted?—A. Not that I know of.

Q. Would you know if it had been objected to?—A. If the objection was made to me I would know.

Q. Do you know whether, if it was made by the Grand Trunk engineers, you would know?—A. I don't know.

Q. It might not have been referred to you?—A. Might possibly not have been I might make an explanation of why it was not mentioned in the list.

Q. What is it?—A. Mr. Lumsden saw that cut himself when it was being excavated, and as far as I know made no criticism of it at all at the time.

Q. That was in the year 1907 or 1908—June, 1908?—A. 1908.

Q. Was that the occasion when he was there with Mr. Woods?—A. He was there with Mr. Woods, I understand.

Q. And Mr. Woods and Mr. Lumsden had examined the work in June, 1908?—A. Yes.

Q. And it was finished in June, 1908?—A. It must have been nearly finished.

Q. When they were there?—A. Yes.

Q. Your notes on that profile show that the work was finished in 1908?—A. Finished in the fall of 1908, in December.

Q. I thought you said in June?—A. Not this cut.

Q. I beg your pardon, it was the other cut; that was finished in what month of 1908?—A. I can show you just what was done in June, 1908. (Producing profile.)

Q. In length about half?—A. About half.

Q. Was the central portion broken in, or were they working at the ends?—A. It was not touched then.

Q. Then in June, 1908, they would only see about half the length of the cut opened?—A. Yes.

Q. Was the material in the central section there, the central third, the deep part of the cuts, of the same character as that at each of the ends?—A. There was more rock in the centre.

Q. And it was deeper in the centre?—A. Yes.

Q. I am not quite sure if I understand what you mean when you say you think the reason Mr. Lumsden omitted it from his list was that he had seen it before; that would not be quite an explanation if he saw it in June, 1908, and the excavation was covered only about half the lineal distance of it—I mean, the return for the remainder would perhaps change very considerably; no doubt it would or might?—A. The classification in general was the same through the cut; it would give an idea of the basis of classification.

Q. What was excavated after June, 1908, was of the same character as what they saw?—A. Some of it.

Q. Except that you say there was more rock in the centre and it was deeper?—A. Yes.

Q. And how many cuttings on your division did Mr. Lumsden see before June, 1909?—A. This one.

Q. That is the only one?—A. The only one.

Q. How many cuttings are there on your division altogether? I think you told us last night?—A. About 150.

Q. In all this list that we have gone over this morning, how many different cuttings are referred to? There were five in one list, and I don't know whether any of the other lists added to that or not, but I think they did?—A. Yes, I think there were two or three more.

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Q. Seven or eight different cuttings in all are mentioned out of about 150?—A. Yes.

Q. You were severely examined, when the arbitrators were there in June, 1909, with regard to one cutting out of 150, and that cutting is not mentioned by Mr. Lumsden in his list, and you say that that cutting was the only one that Mr. Lumsden previously examined?—A. Yes.

Q. How did it happen that that cutting, the long cutting at both sides of 178, was the only cutting that Mr. Lumsden saw in June, 1908?—A. I don't know why he did not see any more.

Q. He didn't go over the whole of the work?—A. He did not go any farther than that.

Q. And is that the first large cutting approaching your division from the east end?—A. Yes.

Q. I think you said it commenced at station or division 160?—A. 148.

Q. And did neither Mr. Woods nor Mr. Lumsden go any farther west than that long cut?—A. No.

Q. I have Mr. Lumsden's evidence, at page 310 of this inquiry, he is referring to this very cutting, and I want to ask you to follow it and to tell me whether there is anything that you do not agree with. He is fixing the date, Sunday, I think it was. I am not sure whether this was the work that was inspected on Sunday or not, but it appears to be from the connection; do you remember if the day they were there on this work was Sunday?—A. It was Sunday, yes. (Reads):—

> 'Q. Yes.—A. We cut down to about line of sub-grade to a width of 18½ feet north. That is measuring approximately from the centre line out to the north. They show six feet of assembled rock in the slope at station 173.'

You said a moment ago that they dug in several places and found solid rock, do you mean rock in ledge or assembled rock?—A. Assembled rock.

Q. Was there any ledge rock in this cutting?—A. No ledge rock.

Q. So that where you say 'solid rock' everywhere, you mean rock in mass?—A. Large boulders and masses.

Q. (Reads):—

> 'Q. You say they showed six feet of assembled rock?—A. Six feet of assembled rock. On the north side we found two or three small boulders that might measure loose rock. Material sandy with a number of small stones easily handled with pick and shovel. On the south side much similar. A little frost 22½ say two feet down. Contract sand and small stones. Station 176.'

Now, that is the note which Mr. Lumsden read. I am not sure whether it is down here correctly or not. That indicates, however, that they dug at station 173 and station 176, that they found assembled rock at 173 and at 176 sandy material with a number of small stones easily handled with a pick and shovel, and which would consequently classify as common excavation, I suppose, if that is what it was, wouldn't it?

Q. Well, that material as they found it on the slopes would be either common excavation or loose rock, as it was at the time.

Q. You understand that note refers to the surface of the slope?—A. Yes.

Q. Yes, that would be it. (Reads)

> 'Q. Are you describing where you dug from?—A. Yes. The digging at station 173. The next is station 176.'

Now, he says he is referring to diggings and that he referred to two diggings, one on the north side where he found assembled rock and one on the south side where he found a number of small stones and sandy material?—A. Yes.

Q. Are you prepared to contradict that, he says that is what he found?—A. No, it may have been right.

Q. This is at station 176. (Reads):

'Q. I want you to tell us how much you dug. How large was your digging? —A. Oh, probably about two feet wide and in perhaps four or five feet. That is perhaps four or five feet horizontally.'

You agree with that, I suppose. Was it as much as that?—A. He doesn't say where, four or five feet in from what?

Q. Four or five feet horizontally, from the surface of the slope, I suppose, he doesn't say four or five feet from what.—A. They were digging it in the side of the slope, and if that was four or five feet from the bottom of the slope it wouldn't go very far in from the surface.

Q. I can't tell you, I have read you his answer as he gives it, perhaps it is four or five feet horizontally. (Reads):

'Q. Two feet wide by four or five feet. How many diggings did you make on that half mile cut?—A. Well, that was one.

Q. How many more?—A. Station 176. The notes say; a few small stones. Both sides dug out to 19·7 feet on the south and 17·17 on the north, 3·3 feet deep. They showed 10 feet of assembled rock.'

Do you understand that?—A. Yes.

Q. Well, will you explain it, because I do not?—A. Ten feet up the slope.

Q. Oh, 10 feet up the slope, yes, 10 feet from the base of the cut?—A. From the ditch.

Q. From the grade line?—A. From the grade line.

Q. Well then, perhaps that has some reference to the question, Mr. Schreiber asked you about the rock beginning at 10 feet above the grade?—A. He probably was referring to the cross-section.

Q. Mr. Lumsden continues his answer (Reads):—

'I have got here another note. I find another borrow pit. I did not know I examined the borrow pit; 459 principally sand and clay to the south, frozen.'

Now is there any borrow pit on this cutting; does that refer to this cutting?—A. 459?

Q. Yes.—A. That would be an entirely different place.

Q. (Reads):—

'Q. Now, I want you to tell us how many diggings you made on that half mile cut?—A. As far as I notice, two; I have only given two.'

Now, you say there were several diggings, six or seven?—A. I don't know how many.

Q. There were more than two?—A. As I recollect it there were more than two.

Q. Then you are not very sure about the number?—A. No.

Q. I do not know that we can get anything more that is useful about that one. We will turn now to the others. Take the next one on page 80, stations 891·50 to 898·50. Now, 891·50 to 898·50 was returned according to Mr. Lumsden, rock 1159 yards, loose rock 6,649, common excavation, 35,132. As the result of his visit to the cutting in June, 1909, he proposed to take off 1,000 yards from the solid rock, leaving 59 yards and 6,449 from the loose rock, leaving 200 yards, and the rest common excavation. Have you the profile there??—A. Yes.

Q. That was all done, or nearly all done, before the 31st of December, 1907?—A. Nearly all.

Q. What do you say about the return of material, 1,100 yards rock?—A. That is in boulders.

Q. That does not mean assembled rock?—A. No, separate boulders.

Q. Does that mean 1,100 yards of measured boulders?—A. Yes.

Q. Well, were those measured boulders?—A. Yes.

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Q. Had you the measurements for them?—A. Yes, the resident engineer had them.

Q. Was he asked for them?—A. I don't remember that he was.

Q. Were you asked for them before the 1,100 yards of rock in boulders was removed from the estimate?—A. I do not remember being asked anything at all at that point except for the quantities.

Q. Well, then, there is no question of assembled rock in that cutting at all?—A. No.

Q. There wasn't any measured there?—A. There is no assembled rock there.

Q. No, there isn't any. In the loose rock allowed what sort of material was that?—A. A portion in the east end of the cut contains some loose rock in small boulders and the balance is returned for frozen material; the cut was worked during two winters.

Q. Can you separate that? How much of it was loose rock?—A. No, I could not give the separate quantities.

Q. But the greater part of it, I suppose, very much the largest part of it, was allowed at loose rock prices on account of being excavated in the winter?—A. The greater part of the loose rock, yes.

Q. In what winters? 1906-7 and part of 1908?—A. Part of that winter.

Q. Part of 1906-7 and part of 1907-8?—A. And part of the next winter.

Q. Why was it proper to allow, or was it proper to allow that frozen material as loose rock? Why wasn't it excavated in the summer?—A. It was a large cutting, and the engineers in the first place had marked that as a solid rock cut on the profile, and the contractors started work the last of February when there were from 4 to 6 feet of snow on the cut. They started in with the intention of having a big rock cut there, and that is why it was started at the time.

Q. Did they bring their plant there for the purpose of excavating rock in winter?—A. Yes, solid rock.

Q. The appearances indicated that it was solid rock, did they?—A. I asked the engineer who made that return why it was called a solid rock cut, and he said that when they saw it, the surface of the ground all over this cut showed these large boulders sticking through and he supposed it was the outcropping of the ledge.

Q. Who was that?—A. Mr. Heaman, he was the division engineer on that.

Q. Did you see it before it was uncovered?—A. That was the first time I saw it.

Q. Did you see that appearance you have described here before it was broken?—A. I didn't see the cut at all until I went on the work in the beginning of 1907.

Q. And was the cut opened then and the surface removed?—A. It was opened at that time.

Q. Well, then, it turned out there was no ledge rock in the cutting?—A. There was no ledge rock.

Q. Did you give instructions or was it your predecessor who gave instructions to do the work in winter?—A. I do not know, they were just starting when I went there, so that the instructions were given before I went on the work.

Q. Then you had also the authority of the then district engineer, Major Hodgins, to allow, under certain circumstances, for frozen material where removed in winter?—A. Yes.

Q. Under the circumstances mentioned there?—A. Yes.

Q. And those were the directions of the Chief Engineer?—A. Yes.

Q. Apparently there was no assembled rock in that and the boulders were measured separately, so that there could not have been a great quantity of boulders in the cutting; there are 35,132 yards of common excavation returned?—A. Yes.

Q. In addition to the loose material, stations 1383 to 1397, there is no question there of assembled rock, there are 427 yards allowed for boulders, which I suppose were

there and were measured, I don't know why—do you know why Mr. Lumsden allowed the rock in that cutting?—A. There was a little assembled rock in that cut.

Q. Yes, how much, because it is described as boulders?—A. Yes, assembled rock and boulders, 427 yards.

Q. And the total content of the cutting is close on 50,000 cubic yards of which you have allowed 427 yards for boulders, and the note is, 'No boulders in sight.' Now, what has become of those 427 yards of boulders?—A. They had been blasted and gone into the fill.

Q. They were broken up?—A. Yes.

Q. And would you expect to find 427 yards of boulders so that you could separate them by the eye where 59,000 yards of material had been excavated?—A. They probably would not be in sight after the fill was made.

Q. Then there is a large amount of loose rock allowed in that cutting, you might explain what that was, 24,033 cubic yards?—A. That is for cemented gravel and frozen material.

Q. Which was removed in winter?—A. Yes.

Q. How much of it is cemented gravel, can you tell us, have you any idea?—A. I could not tell the separate quantities.

Q. Cemented gravel is properly classified as loose rock if it is hard enough, I suppose?—A. If it is cemented.

Q. Any cemented gravel would be hard enough?—A. Yes.

Q. You mean that any cemented gravel to which the term is properly applied would not be removed by a plough as described in that test?—A. No.

Q. I didn't know that, I thought there might be degrees of induration. Can you tell us how much of it was removed in the winter?—A. I could not tell how much was removed during the winter season, but I have it that there was from 3 to 4 feet and more of frost.

Q. Tell us what you have there; read your note?—A. (Reads): 'Three to four feet and more of frost.'

Q. For what distance would that be, for some particular point or over the whole work?—A. No, that would be for the exposed portion of the work.

Q. Which would probably mean the face of the cutting?—A. Yes.

Q. That is why it was being worked, I suppose, from end to end?—A. One end was worked from the face and the other end by excavating from the slope so that five or six cars could be loaded at once from the side.

Q. And thus loading on the track?—A. Loading on the track, yes.

Witness discharged.

Mr. A. E. DOUCET recalled.

By Mr. Macdonald:

Q. You are already sworn, Mr. Doucet. Has your attention been called to a despatch that appeared in the Toronto *World* and in some other papers on Tuesday of this week, I know it is in the Toronto *World,* to which I refer. 'G.T.P. got a new route and country pays for it—Why one section of the N.T. Ry. has cost double what estimates called for.' Did you read that?—A. I have seen that.

Q. Of course that article is an incorrect report of your testimony the other day, and I just want to call your attention to it for the purpose of enabling you to make whatever statement you like in regard to it?—A. Perhaps the best statement I could make would be to read what I have said already before this committee.

Q. First, in order to get it concisely on the records, is there any warrant for the theory that the work of grading had been practically completed and that the Grand Trunk Pacific engineers came along and said that the line must be changed because

it didn't give the required grade?—A. It is far from being correct; construction was not even commenced when we made that change in the line.

Q. And you did not make the change at the request of the Grand Trunk Pacific, but at your own instance?—A. Not at all, it was entirely at our own instance. We found we could not get better than a $\frac{5}{10}$ths grade on the preliminary line that we had run, and in order to get a $\frac{4}{10}$ths grade we had to adopt what we call the loop line at La Tuque.

Q. Carrying out the government policy?—A. That was in carrying out the government policy to get a $\frac{4}{10}$ths grade throughout.

Q. And it was not done at the instance of the Grand Trunk Pacific?—A. Not at all.

By Mr. Chrysler:

Q. Your statement as you made it, Mr. Doucet, seems to me to be quite clear, I read it this morning, unless you want to add to it or correct it?—A. There is nothing to add to it, it is perfectly clear.

By Mr. Macdonald:

Q. In that despatch they say, (Reads):

'When G.T.P. engineers insisted upon the route being changed, the whole plan had to be recast.'

That is untrue, is it not?—A. It is untrue.

Q. Was there any warrant in what you said the other day for that statement?—A. Not at all.

Q. Then the article continues. (Reads):

'The statement was that the whole section on the St. Maurice River, near La Tuque, had to be reconstructed to meet the objections of the G.T.P., and that the mere change in grade involved an additional expenditure of $4,914,186 with additional for bridges, culverts, ice-breaks, &c., including, of course, precautions which while necessary, were not demanded by G.T.P. engineers and called for $975,344 more than the original estimates.'

That statement also that it was reconstructed to meet the objections of the Grand Trunk Pacific is untrue?—A. Construction had not started at the time, and it was only six miles of line at La Tuque that was in question.

Q. You say that you found on the preliminary line on which the estimate was made you could not get a four-tenths per cent grade, and therefore you changed it of your own volition and in accord with the government policy?—A. In order to carry out the instructions of the Chief Engineer.

Q. And in accord with the government policy?—A. And to carry out the government policy to get a four-tenths grade throughout. Had we adopted that six-tenths grade it would have been a saving of $550,000, but we would have broken the instructions we received to get a four-tenths grade from Quebec to Winnipeg.

Q. And you would not have had this uniform low grade?—A. We would not have had a uniform low grade.

By Mr. Moss:

Q. There is no use having a low grade unless it is uniform, is there?—A. Well, in some cases, you might have a slightly heavier grade for a short distance, but of course that would be breaking the uniformity of the grade.

Q. And lessening the carrying capacity of the division?—A. Well, it would lessen the value of low gradients throughout.

By Mr. Macdonald:

Q. What you say generally is that the trend of that article which says that the location was changed at the instance of the Grand Trunk Pacific is untrue and that

any change in location was made solely for the purpose of enabling you to get the standard four-tenths per cent grade and was made at your own instance as district engineer?—A. Yes.

By Mr. Chrysler:

Q. Did you put it correctly in your evidence? Have you looked at the evidence?—A. Yes, I have.

Q. And that article is a misunderstanding of what you did say?—A. Yes, that amount they mention there of $4,914,186 is the excess cost on the whole 150 miles.

Q. But the change at La Tuque, as you stated the other day, the addition of some five miles of railway, I think you told us caused an increase in cost?—A. Of $550,000.

Q. The difference between the estimated cost and the actual cost is $550,000?—A. Yes.

Q. And not some millions as stated in the article?—A. No.

Witness discharged.

Committee rose at 1 p.m.

April 21, 1910.

The committee resumed at 3.30 p.m.

J. A. POLKINGHORNE sworn:

By Mr. Macdonald:

Q. What is your position?—A. Clerk of Sessional Papers in House of Commons.

Q. You received a certain number of returns in regard to matters pertaining to the Transcontinental railway?—A. Yes, sir.

Q. During the present session?—A. Yes, sir.

Q. Have you an index to show what those returns are in a general way, the description of them?—A. Yes, sir.

Q. Would you be good enough to state them in detail?—A. They are indexed under sessional numbers. I received during this session the following numbers: 42a——

Q. What is that?—A. Concerning the Transcontinental railway.

Q. Could you identify that document if you saw it?—A. I could.

Q. You have not got a copy of it there?—A. I have the original. This is the original of 42a. That is the printed copy; that is the original as printed (handing document to Mr. Macdonald.)

Q. That return has been printed and is available for the committee?—A. Yes.

Q. That is unnecessary, but the return is dated the 16th November, 1909?—A. Yes, I presume that would be the date of the order.

Q. Well, then, 42b?—A. I have not got that in my possession.

Q. What does it relate to?—A. It relates to the Transcontinental railway.

Q. What particular part of it?—A. I could not exactly say what the contents of it are. In going through these I don't, of course, make a digest of them.

Q. You have not got that return in your possession?—A. I have not got that return in my possession. But I have a memorandum of whom it is with.

Q. When did you get it?—A. I could not tell you. I received it on the 13th day of December.

Q. Who has it?—A. 42b is out with Mr. Crocket.

Q. When did he get it?—A. He got it on the 14th December.

Q. And he has not returned it yet?—A. No, sir.

Q. And it has not been available then since the 14th December for any other member of the House of Commons but him?—A. No, sir.

Q. Do you allow returns relating to public matters to remain out for that length

of time without question?—A. I have no power to control the action of a member of parliament. As each return is sent in this notice is affixed to it (handing said notice to Mr. Macdonald).

Q. Have you no power to get them back when you want them?—A. Only at the discretion of the member. For instance, I will see Mr. Crocket and tell him that the return is required. Well, he says, 'I want to hold that return until the discussion takes place in the House,' and I have no power to command him to return that.

Q. Well, you received a letter from the clerk of the committee asking you to produce that return?—A. Yes, and that is the reason I endeavoured to have an interview with Mr. Crocket, but he has been too busy in the House.

Q. Will you see him as soon as possible and report to him what the desire of the committee is?—A. In my letter which I wrote to the clerk I said I would use my utmost endeavour to get that as soon as possible.

Q. What about 42c?—A. It is in the same position. It is out with Mr. Lennox, 42c and 42d.

Q. It is described as a return in connection with the Transcontinental railway?—A. Yes.

Q. 42c is a letter—it relates to a letter of the Auditor General to the secretary of the National Transcontinental railway?—A. That is 42c?

Q. Yes.—A. Then 42d is the promotion of Mr. McIntosh as district engineer of the Transcontinental railway. Those are both out with Mr. Lennox. It was taken out on the 11th February. Yesterday I had an interview with Mr. Lennox regarding them and he told me he wanted to keep the returns because he wanted to use them when the matter came up in Supply.

Q. Did you intimate to him that it was the desire of the committee that these should be produced?—A. I had not received the letter at that time.

Q. Will you see Mr. Lennox and intimate to him that the order of the committee is that they be produced?—A. Yes.

Q. And 42e?—A. That is out with Mr. Meighen. That is the correspondence with legal firms as to passing on property *re* Transcontinental railway.

Q. We are not interested with that one so we need not bother. What about 42f?—A. That is also out with Mr. Lennox.

Q. What is that?—A. 42f is the names and addresses of engineers who surveyed the eastern division of the Transcontinental railway.

Q. Well, we want to get that. Did you speak to Mr. Lennox about that?—A. I spoke to him in a general way about the returns.

Q. You spoke about all the returns he had out?—A. Yes.

Q. I see he has out four different returns according to the letter you wrote to the clerk here?—A. Yes.

Q. And Mr. Lennox's statement in regard to those returns is that he wanted to keep them until the discussion was on in the House?—A. I think he said when the matter would come up in Supply or something of that kind with regard to the expenditure of the Transcontinental.

Q. Will you intimate to Mr. Lennox with regard to paper 42f that it is the desire of the committee to have them?—A. I will intimate about all of them.

Q. 42g?—A. That is out with Mr. Borden.

Q. What is that about?—A. An interim report of the expenditures on the eastern division of the Transcontinental railway.

Q. You will speak to Mr. Borden about that?—A. Yes.

Q. 42h, you have that, have you?—A. 42h, 42i and 42j, I have here.

Q. Will you produce them?—A. (Witness produces Sessional Papers 42h, 42i and 42j). That is the lot, sir. Those are all the papers I have received during the session pertaining to the Transcontinental railway.

Q. It is understood that you will intimate to those genelemen who have those returns that the committee desire to have them?—A. Yes, I will take the first opportunity of intimating to them that those returns are desired by your committee.

By the Chairman:

Q. Give us the result of your interview if they should delay?—A. Yes, I will communicate with you.

Q. What is the position? Supposing they should desire to keep possession of those papers during all the session, what power have you got to have those returned so that other members will have a chance to look at them?—A. The only power, I think, is by order of the House of Commons. I think if I was to approach a member of parliament, yourself or Mr. Macdonald, and ask you to return those papers, if you did not see fit to do so I would have no power to compel you to do so; I could only report the matter to the Clerk of the House. During every session of parliament I have the greatest difficulty in the world to get a large number of those returns sent back. I go to members of parliament personally and interview them and ask them to send them back, and I write them letters, in many cases to no effect, and in the many years I have occupied the position of sessional clerk, there are a large number of returns that have never been sent back.

The CHAIRMAN.—Very well. You will communicate with those gentlemen as soon as possible and report to the clerk.

Mr. MACDONALD.—Those papers are in the custody of the clerk of the committee.

The WITNESS.—And will they be returned to me?

The CHAIRMAN.—It depends whether we are going to use them in the course of the investigation.

The WITNESS.—I mean at the close of the investigation, because I will have to keep a record of where those papers are. I just wanted to know if at the close of the case, or when the case is completed, before the session is over, whether the clerk of the committee will return them to me or not.

The CHAIRMAN.—We will see what position we will take.

Witness discharged.

S. R. POULIN recalled.

By Mr. Macdonald:

Q. Last night I asked you to prepare a statement comparing your estimate of 1908 with the cost of construction on the J. D. McArthur Contract, No. 21, and you handed me this. (Indicating Exhibit No. 117.) Is that a correct statement?—A. That is a correct statement as far as it lies in my power to do it at the present time.

Q. The estimated cost of grading according to this was $15,625,391.00?—A. Yes.

Q. The result shows an increase of about 10 per cent in that cost?—A. Yes.

Q. Now, you account for that increased cost over the estimate as follows:

Rock borrow for lakes.	$928,000 00
Train fill, due to sink holes which were not completed at the time of the estimate and could not have been foreseen.	261,860 00

A. Yes, sir.

Q. You anticipate that you require to spend $182,000 to still complete the road?—A. Yes, sir; that is a matter of train fill.

Q. Then there is an item of station and section houses not included in your estimate of 1908 of $118,000?—A. Yes, sir.

Q. And extra work $31,732.00?—A. Yes, sir.

Q. Those items are what you have given to do that work—the cost of grading would be $1,521,592 more than you estimated in January 1908?—A. Yes, sir.

Q. That statement is substantially correct?—A. Yes, sir.

The said statement was filed as Exhibit No. 117.

APPENDIX No. 3

EXHIBIT No. 117.

THE NATIONAL TRANSCONTINENTAL RAILWAY.

STATEMENT COMPARING ENGINEER'S ESTIMATE OF 1908 AND COST OF CONSTRUCTION.—J. D. McARTHUR CONTRACT, DIST. 'F.' MILE 2—247.

S. R. POULIN'S ESTIMATE OF COST, JAN. 11, 1908.

Grading		$15,625,391 00
Cost of grading to 31st March 1910	$16,396,983	
Estimated to complete the same	750,000	
Total	$17,146,983	
Increase about 10 per cent or		1,521,592 00

SAID INCREASE MADE UP AS FOLLOWS:—

Rock borrow for lakes—546,000 c. yds	$928,000 00
Train fill due to sink holes to March 31, 1910—503,597 c. yds @ 52c	261,860 00
Still wanted to complete—350,000 c. yds. @ 52c	182,000 00
Station and Section Houses not included in January estimate of 1908	118,000 00
Extra work	31,732 00
	$1,521,592 00

Not included in above but common to both estimates are following items:—

Steel Rails, Angle Bars, Spikes, Bolts, Angle Bars, Frogs and Switches, Nut Locks	$1,748,860 00
Steel Superstructure of bridge	164,000 00
24 Engine Stall Round House, Springfield	160,000 00
12 Engine Stall Round House, Redditt	80,000 00
	$2,152,860 00

NOTE:—This does not include terminal shops at Springfield Yard nor entrance into Winnipeg.

Q. Who was the Chief Engineer on 'D'?—A. District engineer?

Q. Yes.—A. Mr. Mattice at the present time.

Q. Who is the divisional engineer on the McDougall, Fowler & O'Brien construction, do you know?—A. Mr. McKenzie on division 4; Mr. H. L. Bucke on division 3 and Mr. W. W. Bell on division 2. Mr. M. McGillivray is the assistant district engineer at Lake Superior Junction.

Witness discharged.

GEORGE F. RICHAN, recalled.

By Mr. Chrysler:

Q. I think you had finished your evidence with regard to station 1383 to 1397. Look at station 2315 to 2323. Mr. Lumsden's note is 'rock 2750; loose rock, 1950.' There is something wrong here. 'Rock should not be more than one-half of all in cut, and one-half of the remainder common excavation.' Were you asked about that by Mr. Lumsden in June, 1909, for any explanation?—A. No.

Q. What does your profile show?—A. I don't think that can be in the same division.

Q. You think that may not be in your division?—A. According to the quantities.

Q. Is there another series containing numbers 2315 to 2323 or do you know—A. I don't know.

Q. You don't know how they run?—A. No.

Q. Well then if that is not on your division we will say no more about it. Pass on to the next list. In the details on page 81 station 659·15 to 662, loose rock, 2324; common excavation, 405. What does your profile show? Are these the same figures? Give us them if they are different?—A. The same figures.

Q. No solid rock?—A. No solid rock.

Q. No massed or assembled rock?—A. No.

Q. Then the objection is to the loose rock allowed. What was it? Do you remember or can you tell why it was allowed as loose rock?—A. It was indurated clay and frozen material.

Q. It was indurated clay and frozen material removed in winter?—A. In November, 1907, to October, 1908.

Q. The next station: 815, borrow; loose rock, 1,050; common excavation, 1,050. That is the little mark there that indicates its percentage on the face of it; it is quite obvious it has been allowed one-half loose rock and one-half common excavation. It is just divided in two?—A. Yes.

Q. Do you know why?—A. That is indurated clay partly.

Q. Did you hear what Mr. Poulin said yesterday about allowing some indurated clay near Wabigoon? Was this allowed on the same?—A. This was similar.

Q. This was similar material allowed under the same ruling of the district engineer?—A. The clay was lighter on the surface and harder as it went down.

Q. That was the condition here anyway?—A. Yes.

Q. It was partly common excavation and partly loose rock because there was a difference?—A. Yes.

Q. The upper layer was more easily removed and the lower layers were much harder?—A. Yes.

Q. Was it a matter that could only be determined by estimation?—A. That was the only way.

Q. Could you measure the line that divided the two sorts of material or did they shade into one another?—A. No, they gradually got harder.

Q. They gradually got harder as you went down?—A. Yes.

Q. What do you say as to the proportion allowed, whether it was reasonable or not, or fair and proper?—A. I consider it was fair and proper.

Q. It was allowed on your judgment?—A. Yes.

Q. Do you say now that your judgment was correct?—A. Yes.

Q. Then there is another one, 1080·15 to 1086 loose rock, 2255. Mr. Lumsden says 'all common excavation'?—A. Yes.

Q. Have you got the place?—A. Yes.

Q. What is your note on it? Just the same figures as we have here. Why was the loose rock allowed?—A. Practically the same.

Q. The figures are practically the same?—A. Yes.

Q. Is there any note as to the loose rock or do you remember why it was allowed as loose rock?—A. I have no note on it, but I remember the material.

Q. What was it?—A. It was loose rock worked in winter; portion of it was loose boulders.

Q. A part of it was loose boulders?—A. Yes.

Q. That would have been loose rock whenever removed?—A. Yes.

Q. Also some material that would have been classed as common excavation if it was not removed in winter?—A. It was frozen.

Q. It was removed frozen?—A. Yes.

Q. I will call your attention to the circular which directed that, and ask you if the conditions were complied within?—A. Yes.

APPENDIX No. 3

Q. The next one is very small, 1093 to 1096, rock, 90; loose rock, 500; common excavation, 502. Mr. Lumsden says 'no stone in sight.' Have you got the place?—A. I have the place.

Q. The 90 yards is for boulders?—A. 87 yards I have. That is for boulders.

Q. Were those for measured boulders?—A. These were measured.

Q. There is no doubt about their being there when they were measured?—A. No, sir.

Q. The loose rock, what material was that?—A. That was boulders and indurated clay.

Q. Classed as loose rock because it was so?—A. Fifty per cent.

Q. Was it then mixed with the common excavation?—A. It was massed.

Q. You allowed 50 per cent of the whole material?—A. Yes.

Q. Part of it being boulders and clay?—A. Yes.

Q. Was there a difference as there was in the previous cut in some part of the clay being harder than others?—A. No, it was much the same, full of small boulders; it was boulder clay.

Q. That was classified by percentage, 50 per cent each?—A. Yes.

Q. Station 1383 to 1397 you need not trouble with. We have already dealt with it; it is the third item of the first lot. 1499 to 1508, is that on your division? Loose rock, 4679; common excavation, 3046. Now, there was no rock allowed there? No solid rock?—A. No.

Q. Nor any boulders containing more than one cubic yard?—A. No.

Q. Mr. Lumsden's note is 'is not a boulder,'—that would appear to agree with your own measurement?—A. That agrees with it.

Q. Well, then what sort of material was the loose rock?—A. It was indurated clay in the bottom of borrow pits.

Q. This was the borrow pit, was it?—A. Yes.

Q. How was the quantity obtained. This is not allowed under that percentage rule, 50 per cent loose rock, 50 per cent common excavation?—A. No, the proportion of the borrow pit was estimated.

Q. The proportion of the borrow pit which was hard enough under the specification to be properly classed as loose rock was estimated you say, how?—A. Taking the depth over the borrow pit, the measurement practically.

Q. That really would be measurement?—A. Yes.

Q. 1726 to 1742, is that on your division? Loose rock 7049; common excavation, 4985, what was that, Mr. Richan?—A. Those were borrow pits.

Q. Well, those two stations below, are they all the same? Can we group them together and speak of them all at once? The next one is station 1837 to 1841, borrow pits; station 1913 to 1931, 'muskeg borrow' Mr. Lumsden's note is?—A. They are all similar.

Q. We will take the three together. Now, in all of these, no solid rock is allowed for at first——A. No.

Q. Loose rock is allowed in each of them along with some common excavation. Mr. Lumsden says on the first and third of these that they contain muskeg? What is the fact about that?—A. That is right; they were in muskeg.

Q. Why did you adopt, or if not you, who directed that the muskeg should be used for borrow?—A. That was the only borrow available and it had to be taken in the winter.

Q. Why?—A. The line follows a creek there, crossing and recrossing it, and during the summer it is under water.

Q. Is this low ground on the right and left line of the creek?—A. Yes.

Q. In summer it is flooded?—A. Yes.

Q. You could not work on it?—A. No possibility of draining it.

Q. It had to be done in winter?—A. Yes.

Q. It was off the line, of course. I mean the part that you borrowed?—A. Yes.

Q. Was it adjoining the line?—A. Adjoining the line.

Q. And under the circumstances it was a proper place to obtain the borrow that you required?—A. Yes. That portion of the grade had to be built because it was between the crossing of the creek which was filled in and the rock cut on the other side, and the crossing of the creek had to be filled in with rock on account of the current and soft bottom, and that portion of the dump was finished, to haul the rock over to the creek.

Q. To haul the rock over?—A. Yes.

Q. Was there rock borrow used to make the filling?—A. No, not rock borrow. That was taken from the cut.

Q. This was some length, but the quantity is not very large, it was between the crossing of the creek and the cutting beyond it?—A. That was a portion of it that from 1726 to 1742.

Q. That is 1,600 feet?—A. Yes.

Q. It was muskeg, as alleged?—A. Yes.

Q. And it was moved in winter because you could not move it in summer?—A. Yes.

Q. And you took your borrow there because it was required; you could not get it anywhere else. That is the only place you can get it?—A. That is not making a complete fill, but just raising enough to keep it out of the water.

Q. Did you not take all the material that was required to make the complete fill even at that place?—A. No.

Q. But you took what was necessary to get the embankment up above the level of the water, I suppose?—A. To get the track across.

Q. Then you say that it is not all the same? Is 1837 to 1841 of the same character?—A. That is not muskeg.

Q. 1837 to 1841 is not muskeg? It is a borrow pit in which 1,743 loose rock was allowed and 2,614 common excavation?—A. Yes.

Q. Why was the 1,743 allowed as loose rock?—A. That is for indurated clay in a portion of the pit. The borrow pit was made to complete the fill.

Q. The whole pit is here, I suppose?—A. Yes.

Q. And the amount classified as loose rock was ascertained, how?—A. By measurement.

Q. 1913 to 1941 is muskeg?—A. That is surface muskeg with a clay bottom.

Q. Similar to the case you were speaking of a moment ago; was it excavated in winter?—A. No; that was done in the summer.

Q. Then that muskeg could be worked in the summer?—A. Yes.

Q. Why did you classify it as loose rock then?—A. That is a case where the common excavation was returned for the surface muskeg, and the clay bottom filled with logs that it is impossible to plough returned as loose rock, because the material could not be ploughed.

Q. The clay bottom was filled with sunken logs?—A. Yes.

Q. Deposited there originally or long before you went there?—A. Yes.

Q. A very odd case that?—A. Yes.

Q. Why did you take material of that kind; it must have been very difficult to remove?—A. It was to finish that piece of the grade, and, like the other case, there was just enough taken to get the grade above the muskeg so that the track could be carried over.

Q. For that purpose was it the best and most convenient place to get the material?—A. It was the only place.

Q. What did you do with the logs? Did you make any use of them; were they put in the embankment?—A. No.

Q. Who selects these borrow pits? I mean as between you and the resident en-

gineer; does he do it under your direction?—A. Yes, or the resident engineer sometimes will find the borrow pits. He is more familiar with the details of the work.

Q. Apparently he goes and asks the division engineer before he fixes on the point?—A. Yes.

Q. So it was the joint work of both of you probably in this case, was it?—A. Yes

Q. Is the Grand Trunk Pacific engineer consulted as to the selection of borrow pits?—A. I never had an opportunity to consult him about anything. I never saw him.

Q. He was not on your division?—A. Yes; but he never notified me when he was going on it. His trips were not very frequent, and I never happened to see him.

Q. Well, now, we are at the end of that list. The next list is one of places where cross-sections showing ledge rock were erroneous. The first one is station 627—50 to 638—50. That is on page 81, and the details are to be found on the next page (Reads):

Station 627.50 to 638.50
Rock 1646 Ldg.
Rock 4266 Ass.
L.R. 11,290
C.E. 343

Then Mr. Lumsden says in his note (Reads):

Sta. 634.25. No assembled R.
Sta. 635.25. Could find no ledge rock north as shown on cross-section. Dug in places where McHugh said ledge rock north side, but could not find.

Have you got the cross-sections of that place?—A. I have not the cross-sections. That cut has been, or is being, re-measured, and I have not got the report on it.

Q. The cross-sections are in the hands of the engineers who are making the re-measurement?—A. They are in the office.

Q. Here?—A. There may be copies here. The originals would be in Winnipeg.

Q. Well, do you know anything about this? It evidently was a note made in June, 1909, when you were there. 'Dug in places where McHugh said ledge rock north side, but could not find.'—A. They found the earth filled with broken spawls from blasting, which I claimed was not the original soil. I claimed that a hole had been blasted there and filled in.

Q. Did you say so to Mr. Lumsden?—A. Yes.

Q. Well?—A. He paid no attention. In that cut afterwards I had the rock uncovered from one end of the cut to the other.

Q. Yes?—A. And it showed that if they had dug a foot one way or the other they would have been on the ledge. It was all uncovered and showed the rock.

Q. One end either way at the place where the digging was made?—A. Yes.

Q. Was that done for the purpose of enabling this re-measurement to be made?—A. Yes.

Q. Has the re-measurement been completed?—A. I don't know whether it was completed. I have no report on it.

Q. At all events, you say the later examination proved that there was ledge rock on the cutting?—A. Yes.

Q. Did you say from one end to the other?—A. Well, nearly through the cutting. As far as it was shown, at any rate.

Q. As far as it was shown on the cross-sections?—A. Yes. The re-measurement is not in my hands. Perhaps Mr. Poulin could tell about it.

Q. Well, then, the other note with regard to this cutting is that there was no assembled rock. The return gives 4,266 assembled rock. What do you say as to that? What do you say as to the material that was allowed as assembled rock?—A. It was material overlying the ledge rock.

Q. And was it properly allowed as assembled rock?—A. I believe so.

Q. Did you see it yourself?—A. Yes, I saw it.

Q. Did you concur in the allowance of it?—A. I did. It is another case of where at the time of the visit of the arbitrators the slopes had been trimmed so long that the character of the material had changed.

Q. This cutting was all trimmed up when they were there?—A. Yes.

Q. Did you hear of any objection to the loose rock on this cutting?—A. No, sir.

Q. Now, as to station 2375. That is with regard to borrow, and the note about it is ' three cuts in the vicinity classed by per cent'?—A. I think that is intended for one of the other divisions on another series. I could not make out what three cuts were referred to.

Q. Look at station 611-25 to 619-25 (Reads):

' Rock, 3,615.

Loose rock, 2,408, common excavation, 1,915.

Q. Have you got those figures?—A. (After referring to profile) Practically the same.

Q. What was the rock in that cutting?—A. It was assembled rock.

Q. And how was the measurement arrived at?—A. By taking the depth of what was called assembled rock and making the measurements of the cutting.

Q. Mr. Lumsden has this note with respect to this cutting: 'McHugh said this was classified by percentage'?—A. It was arrived at by taking measurements of what was considered assembled rock as nearly as possible. There was no well defined line between that and the rest of the material.

Q. Yes.—A. And he arrived at this proportion in that way.

Q. Did you have the instructions from Mr. Lumsden which were issued in January, 1908, that measurements should be taken in all cases except where it was impracticable to do so?—A. Yes.

Q. Were you following those instructions?—A. That was done in every case.

Q. It was done in this case, was it? That is, you made whatever measurement was practicable?—A. Yes, what we could.

Q. Something was said, and perhaps you can clear it up, about Mr. McHugh's camp or house being burnt. Do you know anything about that?—A. Yes.

Q. When did it happen?—A. That, I think, was in April, 1908.

Q. What was burnt?—A. Everything in his office.

Q. He lost all his books and papers, did he?—A. All his notes and plans.

Q. Had he his original cross-sections there?—A. They were there.

Q. Did you have copies of them?—A. No. The copies had not been sent in.

Q. Did any difficulty occur afterwards by reason of the loss of the cross-sections?—A. Well, the original cross-sections of some of the cuts that were practically completed at the time were lost.

Q. You heard what Mr. Poulin said, did you not, that Mr. McHugh attempted to reproduce from memory the information with regard to the material in the cuttings on the cross-sections showing the elevations on the edges of the cut.

Q. Yes?—A. And then over the centre line to produce as nearly as he could——

Q. The height?—A. Yes, from memory, and with the assistance of the centre line and profile which he had.

Q. To reproduce the height of the surface of the ground? Was he to try and indicate where the rock occurred, the height of the rock and the other material above it?—A. Yes, he would have to do that.

Q. Showing a separate line at the centre line?—A. Yes.

Q. Then did he do that?—A. Yes, and where a cut was nearly completed he had to get the quantities that he had returned. Of course they were in record in the office and he could not go back on those after his notes were burnt.

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Q. Did you furnish them to him or some member of your staff?—A. Yes. He had to have them to prepare his estimates for the next month any way.

Q. But you have the figures which he had returned up to that time and furnished them to him?—A. Yes.

Q. And then you instructed him to reconstruct the cross-sections?—A. Yes.

Q. With the data on the ground and with the material furnished by the profile? —A. Yes.

Q. Then it wouldn't be a matter for surprise if in digging for instance, assembled rock, at the sides of these cuttings, it should not be found exactly as indicated on those cross-sections?—A. In that particular case the ledge rock showed on one side of the cutting.

Q. Yes.—A. And terminated along the other side in an irregular line, he would have to have cross-sections every foot, or oftener in some places. So the customary way is for the engineer to use his judgment in taking these points for cross-sections and average up the irregularities to the next point. That is, he might have to consider the rock as coming a foot one way or the other from where it really was in order to average it up with the next point.

Q. In order to make the average of the cross-sections? Is that the way it was done?—A. In order to make the volume correct.

Q. The volume?—A. Yes.

Q. At all events the cross-sections were prepared in that way and subject to that imperfection which must arise from the fact that all original cross-sections were burnt and had to be replaced?—A. Yes.

Q. Now, what do you say about Mr. McHugh as an engineer?——

By Mr. Moss:

Q. Before you leave that cutting, I see, Mr. Richan, that at page 380 of the evidence, Mr. Lumsden stated that he was going to reduce that cutting to 135 yards of solid rock in boulders, 3,800 of loose rock, and 4,000 yards of common excavation, and he said that his guide in making that reduction was the appearance of the cutting. Now, was there any justification for any such reduction as that?—A. None whatever.

Q. Was the classification as returned in your belief correct according to the specifications?—A. Yes, it was.

By Mr. Chrysler:

Q. That was measured as 3,612 cubic yards of solid rock? What does your profile show? Was there solid rock there?—A. Assembled rock.

Q. No solid rock?—A. No ledge rock.

Q. 2,408 yards of loose rock, and 1,915 of common excavation. Are you able to say whether that classification which you have made was properly made?—A. Yes.

Q. From your knowledge and on your responsibility as division engineer?—A. Yes. I might say that we attempted to open a borrow pit in the side of this cut, and the contractors expected to get the same classification as was in the cut. But when I told them, after they had worked a little while, that we could not give that classification in a borrow pit, they abandoned the work.

Q. Well then, I would just like to read what Mr. Lumsden says, because we have got those figures just as I have read them, and Mr. Lumsden is asked:

> Q. Give me all the notes you have about that cut?—A. 'McHugh says classified cut by percentages.'
>
> Q. That is of that cutting?—A. Yes, that is what he says. That is the note that I have on that cutting, classified cut by percentages.
>
> Q. Is that the only note you have?—A. Oh no.
>
> Q. What else have you?—A. My memorandum of what it appeared to me to

be is 135 yards of solid rock in boulders, 3,800 of loose rock and 4,000 yards of common excavation.

What do you say of that classification of that cutting?—A. I don't know what basis it was made on.

Q. 135 yards of solid rock in boulders; had you measurements of the boulders in that cutting?—A. No; they were massed boulders blasted out all together.

Q. And the measurement you made was of the massed rock?—A. Yes.

Q. You say that you don't know how Mr. Lumsden arrived at this; are you able to say whether that classification of material is correct—his classification?—A. Not in my opinion.

Q. Would it be justified by the appearance of the cutting as Mr. Lumsden saw it?—A. No, it would not.

Q. At the time he was there, in June, 1909?—A. If he used the opportunity of looking at the borrow pit that was made there, it would be entirely different.

Q. Was that abandoned and left open so that one could see it?—A. Yes.

Q. And by examining the borrow pit adjoining, the character of the material could have been seen?—A. Yes.

By the Chairman:

Q. Did he examine it?—A. Well, I don't know. Judging from his classification I don't think that he could have.

By Mr. Chrysler:

Q. That was not what I had in my mind; but looking at the cutting as the cutting was finished up, did that borrow pit occupy the place of one slope of the last cutting?—A. One end of the cutting.

Q. At one end?—A. Yes.

Q. The rest of the cutting was dressed?—A. Yes.

Q. Slopes were dressed, and the whole cutting completed?—A. Yes.

Q. Would it appear to any one examining it casually that the material was nearly all common excavation?—A. Yes, after it was finished.

Q. If no diggings were made?—A. Without any previous knowledge.

Q. Without any previous knowledge of the cutting?—A. Yes.

Q. Then Mr. Lumsden was asked:

Q. Now could you give us anything at all that guided your guess or estimate of that cutting?—A. I can't give you any details of what guided me.

Q. You have nothing at all you can give us?—A. Except that it was what I saw there.

Q. What did you see?—A. I didn't see much rock, that was the only thing I judge from these notes.

Q. How far did you look for it?—A. I can't tell you how far.

Q. Did you make any digging at all these?—A. No, I have no notes of any digging.

Now you have Mr. Lumsden's opinion and your own—your own as expressed in this return?—A. It is expressed in the estimates.

Q. That is, of course, subject to revision, and may be revised by the district engineer or the Chief Engineer?—A. Yes.

Q. But as far as you are concerned, that is the correct return to the best of your judgment?—A. Yes.

Q. How often did you have the opportunity of seeing this cutting?—A. The cutting took about a year, and I was over it at least once a month, sometimes three or four times.

Q. Not less than once a month, and sometimes three or four times a month?—A. Yes.

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Q. From the time the work was going on until it was completed?—A. Yes.

Q. When was that cutting completed?—A. In September, 1908.

Q. And Mr. Lumsden saw it, as he has told us in his evidence, in June, 1909; theh track was laid through it when he was there?—A. It was through that cut.

Q. Slopes finished?—A. Yes.

Q. Everything completed?—A. Yes.

Q. Was that borrow pit intended to remain there? Does it spoil the appearance of the slope in any way?—A. No.

Q. And it was there, and might have been inspected?—A. Yes.

Q. And would have shown reasonably, I suppose, the material from which the cutting was excavated?—A. It would have shown in better condition than at the time it was excavated.

Q. The borrow pit?—A. Yes; but not nearly so much change as there would be in the trimmed slopes of the cutting.

Q. The borrow pit would look better and would appear to have less loose rock in it, or less assembled material, than the cutting had when it was taken out?—A. Yes.

Q. But the borrow pit would afford a better basis for their judgment than the finished slopes adjoining it?—A. Yes.

Q. I wanted to call your attention to that circular issued by Major Hodgins. Have you ever seen this letter from Mr. Lumsden, or had a similar letter been sent to you? It is Exhibit No. 59, and dated May 20, 1909, to Mr. A. G. MacFarlane, District Engineer, North Bay, in which he says:—

> If the contractors were ordered in writing (which order should be approved by me) to proceed with certain work at a specified time, which, under ordinary circumstances, could only be classified as common excavation, but owing to its being frozen, so as to prevent of its being ploughed and so bringing it under the heading of loose rock or cemented material, the portion frozen may be so allowed.

Now, you have spoken of several instances in which frozen material was allowed on your division?—A. Yes.

Q. Was it removed under the condition stated here as to its condition—that is, in every case was the material taken out while frozen, and only the portion frozen allowed?—A. Yes.

Q. What were your instructions about that?—A. Only the frozen portion.

Q. Of course that might amount to a good deal if the exposed portion froze up again, if it was severe weather day after day?—A. It does.

Q. That would depend on the season, of course?—A. Yes.

Q. If you were excavating a through cutting from the top—which did not often occur, I suppose, on your division—you might find material that could be removed once you had removed the frozen surface?—A. Yes, but a great many of the cuts in the winter time froze solid over night in the face of the cutting.

Q. They were nearly all cases in your division excavated from the face at each end, and that face would freeze up through the night?—A. Yes.

Q. Then about the order in writing, where would the order in writing as to the proceeding with those cuts come from? Would it be your order, or Mr. Poulin's order, or Mr. Lumsden's order? Who ordered those cuttings to be proceeded with in winter?—A. Either Mr. Poulin's or Mr. Lumsden's.

Q. It was not your personal order?—A. No.

Q. You were there merely to carry out the order—to see that this work was pushed?—A. Yes.

Q. You can't speak as to whether in any one of those cases you have spoken of orders were given such as are mentioned in this letter?—A. No.

Q. I asked Mr. Poulin to prepare a list of the different stations which are men-

tioned—all the stations which are mentioned occurring on your division, in the memorandum of Mr. Lumsden; Rocky Lake, 1145, is that on your division?—A. No.

Q. You can look at that list when Mr. Poulin makes it up. There are eighteen localities mentioned in Mr. Lumsden's memorandum which occur on your Division 5, including borrow pits—they are not all cuttings—and you know how many of those are borrow pits; three or four, I think?—A. Three or four.

Q. So that about 14 or 15 cuttings are described in your division, No. 5. Now, you are division engineer of No. 6; you succeeded whom there?—A. W. W. Bell.

Q. In January of this year?—A. Yes.

Q. Has Mr. Bell left the service?—A. No.

Q. What is he doing now?—A. He is an engineer on division 2.

Q. How many cuttings are there on division 6?—A. I couldn't say.

Q. Do you know if any of the points on division 6 are mentioned in this memorandum of Mr. Lumsden?—A. I think there are.

Q. You have not looked?—A. No.

Q. Have you any knowledge of the figures returned upon division 6?—A. No.

Q. That was all done before you went there?—A. Yes.

Q. You could not give any evidence about that even if you found the places?—A. No.

Q. Your division seems to have been the one most severely criticised of all the divisions on District 'F' by Mr. Lumsden; there are more places mentioned there?—A. Yes.

Q. It may have been heavier work; do you know of any reason why that should be so?—A. I think I know of two reasons. On the other divisions it was nearly all solid ledge rock, or prairie work on the west end, and this division was nearly all of this mixed material; and another thing, on the arbitrators' trip they commenced at that end and went into it pretty thoroughly as far as going over that division, and part of the next one, before they got tired of it.

By Mr. Moss:

Q. You say they went into it more thoroughly; according to Mr. Lumsden's evidence they did not go into it very thoroughly?—A. Compared with what they did afterwards.

By Mr. Chrysler:

Q. Were nearly all those places where exception has been taken to your estimates adjusted afterwards, or do you know?—A. Some of them are being re-measured now—two or three cuts.

Q. And are the rest settled, as far as you know?—A. I don't know whether they are under consideration or not.

Q. Then referring to Mr. Woods' list of cuttings, objected to and forwarded by him to Mr. Lumsden, this is printed in the Parlimentary Return at page 8. I have looked over it and perhaps you had better look over it and tell me whether cutting 178—or rather cutting 162 to 180 something is mentioned there?—A. No, it begins with mile 5.

Q. And that was a cutting which Mr. Woods and Mr. Lumsden visited together in June, 1908?—A. Yes.

By Mr. Moss:

Q. Mr. Richan, were you satisfied with the capacity and the diligence and integrity of your resident engineers who were under you?—A. Yes.

Q. And did you keep in constant touch with the work throughout?—A. Yes.

Q. And were you thoroughly familiar with the classification?—A. Yes.

Q. And are you satisfied that the classification on your division was made and

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the returns made in accordance with the specifications as interpreted by Mr. Lumsden, as accurately as is reasonably possible?—A. Yes.

Q. There may be one or two cases perhaps for adjustment, such as would occur in any work?—A. Yes, that is according to my judgment.

Q. Apart from that, is there anything in this return different from the returns on any other work?—A. No.

Q. Then, prior to the arbitration, did you ever hear from Mr. Lumsden any complaint of the classification that was being made of assembled rock on your division?—A. I never heard, from Mr. Lumsden or any one else, any criticism of the classification on division 5 until the arbitration trip.

By Mr. Smith:

Q. How long have you been practising as an engineer?—A. Nineteen years.

Q. Have you been working on different railways?—A. Yes.

Q. Tell us what your experience has been?—A. Fifteen years in the United States.

Q. On what railways?—A. New York Central, or Boston and Albany; on that same railway fourteen years.

Q. Then, when did you come to the Grand Trunk Pacific?—A. In February, 1905.

Q. You have told Mr. Moss that you had confidence in the engineers under you; what engineers were there representing the Grand Trunk Pacific in your division?—A. Mr. W. E. Mann and J. A. Heaman.

Q. Are you able to say whether they personally inspected the work as it was going on?—A. I heard once or twice that they were over the line.

Q. You did not meet them on the line?—A. I didn't happen to meet them.

Q. Did you meet with any special conditions in your division that would account for the increase over the amount that was estimated for the purpose of letting the contracts?—A. Yes; very much more difficult than appeared on the surface originally.

Q. Anything else?—A. I don't know of any. I don't recall anything particular.

Q. In the case of ledge rock, was it always measured accurately?—A. Yes.

Q. And what did you do about assembled rock?—A. Measured it whenever it was practicable.

Q. Are you able now to pledge your oath and your reputation as an engineer that this was measured when it was practicable?—A. Yes.

Q. That is to your personal knowledge?—A. Yes.

Q. And when it was not practicable you got at it how?—A. It was estimated the best way we possibly could.

Q. Do you know of any engineering method by which you could have got at it more accurately?—A. No.

Q. Did you ever have any reason to suspect the good faith of any of the engineers employed under you?—A. Never.

By Mr. Chysler:

Q. I put in this memorandum; just look at it, the number of stations referred to above; is that right?—A. (After examining Exhibit 118). Some of it is.

By Mr. Macdonald:

Q. You had better take that and verify it and hand it in to the clerk.

By Mr. Chysler:

Q. How many different localities are mentioned?—A. Thirteen or fourteen; I have verified the list. There are 15.

Q. Including how many borrow pits?—A. Three.

Q. So that would leave 12 cuttings out of 150 on your division that are referred to in all those different headings?—A. Yes.

Q. And you have given your evidence in regard to them now?—A. Yes.

EXHIBIT No. 118

List of Cuttings and Borrow Pits mentioned in Division 5, of District 'F,' in Mr. Lumsden's Charges.

Station... ..	553·80— 556		Station... ..	1383 —1397	
	611·25— 619·25			1499 —1508	
	627·50— 638·50			1726 —1742	borrow.
	659·15— 662			1837 —1841	borrow.
	815 —	borrow.		1913 —1931	
	89150 — 898·50			2230 —2240	
	108015 —1086			2315 —2323	?
	109380 —1096·50				

By Mr. Macdonald:

Q. Well, Mr. Richan, what part of Canada do you belong to?—A. Nova Scotia.

Q. You have been up on this section since 1905?—A. February, 1905.

Q. And you had to do with the preliminary surveys?—A. Yes.

Q. Had you anything to do with the estimates made by Major Hodgins?—A. Yes, I had, I prepared the estimate of quantities for grading on a certain section of it for which I ran the preliminary line.

Q. What section would that be?—A. That would be what is now Division 3.

Q. Division 3?—A. Division 2 and 3.

Q. Did you take part in the preparation of the estimate made by Mr. Poulin subsequently in 1908?—A. Yes, I made that portion of it for Division 5.

Q. Do you know anything about that statement of loose rock contained in the estimate of Major Hodgins, the estimate being only 2,160 yards?—A. I know.

Q. What would you say as to whether or not that is not a manifest error?—A. I should think that it was.

Q. That it was a manifest error?—A. Yes.

Q. Didn't you have enough knowledge yourself of the survey information at that time to know that it must be an error to have only 2,160 yards of loose rock in the whole district?—A. I don't remember the portion of the estimate that I made at the time.

Q. Well, from your knowledge of the conditions up there, from your knowledge going over that district, in the second estimate of Major Hodgins' report it is stated that the estimated quantity of loose rock was 2,160 yards?—A. I should think that it was an error.

Q. From your knowledge of conditions there?—A. Yes.

Q. You know it would be very much larger?—A. Yes.

Q. It ought to be very much larger?—A. Oh yes.

Q. When does the winter begin there? That is when does the frost set in so that you cannot continue work, usually when has it set in during the years you have been there?—A. Well, from the middle of October until some time in November. At different times.

Q. And continues until when, during the past four years?—A. One year was in June and another year would be early in May.

Q. In May, yes?—A. And I do not remember about the other two years.

Q. What has been the earliest it has ever opened in the spring?—A. I haven't any record with me now of that.

Q. Would it be safe to say there are not more than four or five months in any year in which you are absolutely free from frost conditions?—A. Not more than that, usually less.

Q. It would be absolutely impossible to have that district completed with any degree of quickness or within reasonable time, unless provision were made for winter work?—A. No. As a matter of fact I have found frost in the ground in September, it had been there all the summer.

Q. So that it was absolutely necessary in order to have anything like reasonably

fast construction, to work in the winter and to take into consideration winter conditions?—A. Yes, it would take a good many years to build, working in the summer only.

Q. Of course the effect of these winter conditions was to create frozen material to such an extent that it had to be dealt with the same as rock?—A. Yes, it had to be blasted.

Q. And these facts were not taken into consideration in the first preliminary estimates, were they?—A. I do not think so.

Q. Do you agree with Mr. Poulin's statement that for 150 miles of District F, you had the most difficult piece of construction you have known of?—A. I think so.

Q. What do you say to that?—A. I think it is.

By the Chairman:

Q. I believe you are one of those engineers in whom Mr. Lumsden says he lost confidence. When Mr. Lumsden went over your work in cases where he did not approve of your classification did he ask you for your explanations why you had made such classification?—A. He did not ask me; I started once to make explanations and I was told they were not required, he did not want them.

Q. You say that you offered to make your explanation?—A. Yes.

Q. You were there present on the ground?—A. Yes.

Q. And he didn't ask you at all in any case for explanations?—A. No.

Q. In the places where he disapproved of your classification, he did not ask an explanation?—A. No, I was not consulted.

By Mr. Chrysler:

Q. Mr. McHugh, the resident engineer on the part of the work which is referred to, was also present, was he?—A. Yes, over his residency.

Q. And were the other resident engineers along with you?—A. There was one other on his residency.

Q. Who was that, Mr.?—A. Phillips.

Q. What are the stations in Mr. Philips' residency?—A. Station 1920 to station 2468.

Q. Well, that is the second residency, Mr. McHugh began on the eastern end of your division?—A. He is at the eastern end and this one is at the west end.

Q. Are there just two residencies?—A. Four, the other two resident engineers had left.

Witness discharged.

HORACE B. CRESSMAN, sworn:

By Mr. Chrysler:

Q. You were one of the resident engineers on District B, what was your residency?—A. Residency 28.

Q. And what division is that on?—A. Division 7.

Q. How long have you been resident engineer at that place?—A. Since May, 1908.

Q. What are the stations on your residency?—A. From 6660 to 7160.

Q. How many miles?—A. About 9 miles.

Q. What is the mileage?—A. Mile 134 to mile 143.

Q. Now Mr. Lumsden in a list which he has furnished to the committee, has referred to a number of places where he says the classification or the estimates returned for work done in nearly all instances the classification is excessive—have you seen this list?—A. I have seen the list.

Q. If you go over this list of stations referred to in District B you will find a large number of them are on your residency. For instance, beginning on page 79 of the evidence, 6710 to 6890 is the first one, you have this list?—Yes, I have the list.

By Mr. Macdonald:

Q. On what contract is this?—A. On Macdonell & O'Brien.

By Mr. Chrysler:

Q. That first number there, station 6710 to 6890 appears to be an inclusive description, 'a number of' it says. A. It includes several cuts.

Q. 'A number of cuttings, in nearly all of which the returns of rock seems excessive,' and the several cuttings are given below. The first one 6824 to 6830 is classified rock, 12,014, loose rock, 9,550, common excavation 5,687. A. Yes.

Q. Mr. Lumsden says of that, 'No rock in sight. Say one-eighth L.R., remainder C.E.' Are you responsible in the first place for the classification which is given in the figures on the left there?—A. Yes, with the approval of the division engineer, of course.

Q. You remember that cutting, do you, you know what it is?—A. Very well.

Q. Will you describe it?—A. Well, it is a cut of massed material from 6824 to 6830, that is a cut of massed material.

Q. That is a 600 foot cut?—A. Yes, about that, with boulders cemented together with a kind of clay formation, a clay and sand formation.

Q. How is the rock measured?—A. Well, it was by estimation of course.

Q. Did you take cross-sections?—A. Oh yes.

Q. Have you the cross-sections here?—A. I think they are here.

Q. The cross-sections were put in from 6824 to 6830, do you know the cuts?—A. Yes.

Q. For that cutting we have the cross-sections already put in, Exhibit 95, I suppose they are familiar to you?—A. Oh yes, quite familiar.

Q. There are three sheets of them, just look at them and see if those are the cross-sections for those cuts?—A. Yes, it is my own work, they are put in signed by myself.

Q. This is your personal work?—A. Yes.

Q. Now each of these sheets shows in order a number of cross-sections drawn to scale and in accordance with the directions for the resident engineers?—A. Yes.

Q. And upon that you have indicated in a number of places, 'MM.' and give the area of the cross-section within which that material is to be found. What does 'M.M.' mean?—A. Massed material.

Q. How far apart are these cross-sections taken?—A. Usually they are in 100 feet sections, it depends upon——

Q. These cross-sections are how far apart?—A. One is 34 feet, one 50 feet, another one 50 feet, 50 feet, 50 feet, 50 feet, this is taken on a curve, and they are usually taken 50 feet apart right around the curve.

Q. Yes, there is one short there, 34 feet?—A. Yes, one is short.

Q. And the rest appear to be 50 feet?—A. Yes.

Q. Are you prepared to swear these cross-sections are correct?—A. Yes.

Q. Of course the outside lines are correct anyway, there is no dispute about that?—A. Yes, I took them out myself.

Q. Are they correct in indicating that the material throughout was mixed material, that is what that means, is it not?—A. That is what it means.

Q. It does not mean that it is either solid rock or loose rock, but that it is mixed material?—A. Mixed material.

Q. How do you arrive at the division, the apportionment into the different classes of material in that cut?—A. We have to do that month by month by percentage, and then we get at the different materials in the cut, they are all mixed up and we could not do otherwise, it was mixed and hadn't dividing lines between it.

Q. There were no dividing lines between the common excavation and the loose rock and the solid?—A. It was assembled rock, there was no solid ledge rock there.

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Q. There was no solid ledge rock in this cutting?—A. No.

Q. Solid rock is an ambiguous term in this connection, it means what was properly classified as solid rock, but in the sense of solid rock being ledge rock there was none whatever in this cutting?—A. None whatever.

Q. This return was signed by you?—A. Yes, sir.

Q. And it is signed by Mr. Hervey, the assistant district engineer, and by the division engineer, Mr. Bourgeois?—A. Yes.

Q. But the original work is yours?—A. It is done by myself, yes.

Q. Of what description were the boulders in that cut, large or small?—A. They were both large and small.

Q. Did you have regard to any rule as to the quantity of rock which should be found, the proportion of boulder to the cementing material in order to be classified as solid rock?—A. No, only that it required continual blasting of the cut, that was all.

Q. That it required continual blasting?—A. Continual blasting.

The committee rose at 6 p.m.

April 21, 1910.

The committee resumed at 8.30 p.m.

Mr. S. R. POULIN recalled.

By Mr. Chrysler:

Q. Mr. Poulin, have you prepared a statement of all the points mentioned in Mr. Lumsden's memorandum grouping them by the divisions on which they occur and excluding division No. 5 which is Mr. Richan's division?—A. Yes, sir.

Q. We will put it in here as

EXHIBIT No. 119.

NATIONAL TRANSCONTINENTAL RAILWAY, DISTRICT 'F.'

LIST OF CUTS MENTIONED IN DISTRICT 'F' IN MR. LUMSDEN'S CHARGES EXCLUSIVE OF DIVISION 5.

DIVISION 6.

Sta.	3394	to	Sta.	3420	
"	3540-75	"	"	3556-80	
"	4585-54	"	"	4591-35	Question of overbreak and waste.
"	4623-90	"	"	4634-68	
"	4702-79	"	"	4710-20	

DIVISION 7.

RESIDENCY 29.

Sta.	1004	to	Sta.	1007	Ordered to be re-measured.
"	1091	"	"	1097	O.B. and Waste.
"	1171	"	"	1188	
"	1130	"	"	1128	
"	1145				
"	1171	"	"	1188	
"	1250	"	"	1238	Overbreak.
"	1414	"	"	1399	
"	1732	"	"	1716	
"	1965	"	"	1955	

DIVISION 8.

Sta.	8319-16	to Sta.	8324-71		
"	8133-16	" "	8140-19		
"	8144-44	" "	8152-25		
"	8439-32	" "	8457		
"	9121	" "	9139	}	This has been re-measured.
"	7614-02	" "	7623-5		
"	7668-65	" "	7687-50		
"	7955-82	" "	7973		
"	8472-78	" "	8484-50		

Q. You notice that in compiling this, that in a number of cases for the purpose of clasifying them under different headings, Mr. Lumsden repeated the points about which he had remarks to make in different places?—A. Yes, sir.

Q. So that some of them are repeated several times?—A. Yes.

Q. But you have taken no notice of that repetition?—A. No.

Q. Each station appears only once?—A. Yes, sir.

Q. How many points or localities of the division are there in this statement?—A. There are five on Division 6.

Q. How many on Division 7?—A. Nine on Division 7.

Q. How many on Division 8?—A. Nine on Division 8.

Q. That is 23 altogether?—A. That is 23 altogether.

By Mr. Clarke:

Q. Is that in Mr. Lumsden's statement?—A. Yes, sir.

Q. There are more than nine?—A. Only one line represents one point from station 1,004 to 1,007. That is one point; there are ten. There is a barrow pit at 1,145, which is not a cut; nine on one side and ten on the other.

By Mr. Chrysler:

Q. Then it would be more correct to say that on Division 7 there are ten, one of which is a borrow pit and the rest are cuts?—A. Yes.

Q. You have also stated in a general way the matter which is a controversy by Mr. Lumsden with regard to all these different stations. In the first five, in Division 6, you see there is a question of overbreak and of waste of rock?—A. Yes, sir.

Q. In the next Division No. 7, the first three stations have been ordered to be re-measured?—A. Yes, and also the borrow pit at 1,145.

Q. Also the borrow pit at 1,145?—A. Yes.

Q. It is in the course of re-measurement?—A. It is in the course of re-measurement.

Q. The remaining stations in that division involve the question of overbreak?—A. Yes, sir.

Q. There are nine in the next one?—A. Yes.

Q. Nine localities which occur on Division 8 have already been ordered to be re-measured?—A. They have all been re-measured at the present time.

Q. And a good many of them were intended to be re-measured and were being re-measured when Mr. Lumsden was there in June, 1909?—A. Yes, sir.

Q. Then there is no controversy as to the principle about overbreak, is there? That is a question of judgment, isn't it?—A. Well, it is a question of judgment, certainly.

Q. I mean there is no dispute among engineers such as there was about the massed material or assembled rock as to what should be allowed as overbreak?—A. There is none. The point that might arise there would be the application of the circular which had been issued by Major Hodgins previous to my going there and upon which the work was measured and returned.

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Q. Well, we had better find that and refer to it again in this connection. Mr. Todd, could you find the circular that was issued by Major Hodgins about the allowance for overbreak?

Mr. TODD.—It is Exhibit 105.

By Mr. Chrysler:

Q. It is Exhibit No. 105. The sentence in Mr. Hodgins' circular is as follows:—

Overbreak. All sides. Any overbreak caused by seams in rock; in fact any overbreak which is unavoidable or not due to misplaced holes or overloading. The above to be allowed as solid rock.

Q. Was that ever countermanded by anybody?—A. Not until the completion of the work.

Q. A lot of the work was completed before any question was raised about the overbreak?—A. It was practically all completed.

Q. And whatever question there is, is a matter that can be settled by the proper engineer having authority to deal with it?—A. Yes, sir.

Q. By any district engineer who has definite instructions?—A. Yes.

Q. By the Chief Engineer or by the arbitration?—A. Yes, sir.

Q. There can be no concealment about it?—A. There is no concealment. The overbreak is there; it can be measured at any time. The disposal of the rock is to be seen at the cut, under water or in sink holes, and apparently the greater part of the can be traced.

Q. Then I notice in Mr. Richan's evidence which you heard that even on his division there are very few cases where there is any dispute in regard to mixed material?—A. Well, I cannot say that I followed Mr. Richan very much, because I was preparing those papers for you.

Q. Perhaps you might know it; several objections made to the allowance on Mr. Richan's division were made because Mr. Lumsden thought what was really in his view, common excavation had been returned as loose rock?—A. Yes, sir.

Q. That does not involve the question we have been talking about here so much as the measurement of rock in masses; it has no bearing on it at all?—A. No; it is the difference between common excavation and loose rock.

Q. Which of these stations represent those borrow pits and the places near Wabigoon, where you were allowing one-half loose rock and one-half common excavation?—A. There are none of them there; these were not mentioned in Mr. Lumsden's list.

Q. These were not mentioned in Mr. Lumsden's list?—A. No; it was only a general statement he made with regard to the evidence.

Witness discharged.

Examination of Mr. HORACE A. CRESSMAN resumed:

By Mr. Chrysler:

Q. I had been asking you about 6824 to 6830, and you put in a cross-section, or an exhibit, containing three sheets of cross-sections?—A. Yes.

Q. Are those cross-sections all there are in that cut?—A. In that cut, that is all. That is a complete cut.

Q. So that we have a graphic representation of the whole cross-section for that cut?—A. That is a complete cut, yes.

Q. You did not mention whether you had any rule in your mind, any direction from any engineer as to what amount or proportion of boulders there should be in the material to warrant you in classfying it as solid rock, assuming it to be cemented together in a mass?—A. Well, at least 50 per cent of the massed material returned,

at least one-half is supposed to be rock, was rock; that is one-half of the massed material returned.

Q. Where did you get all rule?—A. It was the circular issued.

Q. Have you got the circular?—A. Not here; I don't remember exactly, but I think that circular was probably issued——

Q. (To Mr. Doucet) Did we have that circular about 50 per cent?

Mr. DOUCET.—No; we have not got it yet. I can file it.

By Mr. Chrysler (to witness):

Q. Do you know whether this particular cutting was wholly or partially completed before you got that circular?—A. No, I don't remember the date of the circular, sir, exactly.

Q. Of the rock in this cutting, 12,014 cubic yards was, I understand, all massed material, no ledge rock?—A. No ledge rock whatever, no.

Q. Are you prepared to say that 50 per cent of those 12,000 yards consisted of boulders?—A. Oh, at least.

Q. What would be the percentage of that 12,000? Did you ever work it out by percentage?—A. Well, it is very hard to say. It is returned from month to month. We would want to get an idea of it as it was shot down, after the material was shot. That is classified month by month, and the total is arrived at when the cut is completed.

Q. The material, is it shown on the cross-section or did you keep notes?—A. There is no way of keeping it on a cross-section. We could not find a dividing line between them.

Q. How did you record that, as to the quantity taken out month by month? You made a monthly return. Of course, that recorded it, but didn't you have to do it day by day?—A. No; I was on the work all the time, and saw it day by day. You get an idea from that.

Q. What happened to the boulders contained in those 12,000 yards?—A. They have gone into the dump.

Q. Mr. Lumsden says there was no rock in sight?—A. He probably means in the slopes.

Q. On the slope?—A. Yes. The cut was sloped, and the slopes naturally are dressed; the rock is taken out of them, and, as the cutting for the slopes are weathering, you can see indications of sand wearing down earth and clay; you can see indications of the rock there now, but the time Mr. Lumsden passed through it the slopes had been dressed; and there is no indication of rock, although there is in the embankment.

Q. What do you mean by dressing?—A. Taking out all rocks that are liable to fall or roll down the slopes.

Q. Does that involve removing rocks which are protruding from the line of the slope?—A. Yes.

Q. That involves the removal of a good many rocks from the line of the slope?—A. Yes.

Q. Was this a through cut, 6824 to 6830?—A. Yes, practically. The sections show that very well.

Q. I thought the sections show that side hill?—A. Not altogether.

Q. Could you get that Exhibit?—A. If I remember correctly the ends of the cut were taken out to daylight; that is on one side, but I think the centre of the cutting was through cutting. The sections are short though. This will show it. At the end of the cut it runs out to daylight, but most of the cut is through cutting.

Q. Still one slope is much longer and higher than the other all the way through?—A. At the side of the cutting.

Q. But on the other side it runs out on the second sheet, and also on the third sheet?—A. Yes.

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Q. A good deal of it is side hill?—A. Yes.

Q. Now, look at the next station 6915 to 6917. That is only 200 feet?—A. 6915 to 6917, yes, I remember it.

Q. That is rock, 2,142 yards; loose rock 1,395 yards; common excavation, 1,372 yards. Mr. Lumsden says 'no rock.' What do you say? Is there any ledge rock?—A. No ledge rock.

Q. No ledge rock?—A. No, sir.

Q. Would your cross-section show that it was mixed material which was to be found at these stations?—A. Yes, it is marked 'mixed material.'

Q. Anybody examining the cross-sections would see it was not pretended there was any ledge rock?—A. No, none whatever. Ledge rock cuts are marked 'ledge rock.'

Q. 'L. R.' is loose rock?—A. Yes. That was Mr. Lumsden's idea at the time.

Q. You say that they are all marked?—A. Yes, all marked 'mixed material, M.M.'

Q. And this classification is made by you in accordance with your understanding of the specification?—A. Exactly, yes.

Q. Have you changed your mind about it? Are you prepared now to say that the classification is correct according to your judgment?—A. Yes.

Q. Whether your judgment is good or bad, there it is?—A. Yes.

Q. Now the next one is a very much larger cutting 6,187 to that is 1,200 feet, is it?—A. Yes, exactly.

Q. And the contents are, rock, 42,469; loose rock, 26,558; common excavation, 37,154?—A. Yes, sir.

Q. Now the whole contents of that is what?—A. About 106,000 yards, roughly.

Q. Of which you had classified a little more than one-third as common excavation?—A. Yes, sir.

Q. Mr. Lumsden says, 'this seems all common excavation, no rock, but the percentage of loose rock, say 25 per cent for boulders; some of it good ballast.' Is there anything different from that than the other two?—A. No, sir, the same thing. The cross-sections are here for that.

Q. Well, they won't show us anything?—A. No.

Q. They are marked 'M. Ma,' mixed material area and indicate that it is the material that must be classified?—A. Yes.

Q. The next one, 6963 to 6969; that is a much smaller cut, and that is divided as shown here into rock, loose rock and common excavation. Mr. Lumsden says 'nothing but common excavation in sight.' What is the last of your stations?—A. I run to 7160.

Q. Everything on this page is on your division?—A. Yes.

Q. They are all much the same?—A. They are all mixed material cuts.

Q. They are all mixed material cuts down to the bottom. The ones we have referred to are not different from the others in character?—A. No, they are all mixed material cuts. There is no ledge rock in any of those cuts; all classified cuts.

Q. In addition to those we have already mentioned there are six more?—A. Yes, exactly.

Q. And the difference between yourself primarily, as the engineer on the ground and the Chief Engineer, is one of opinion as to how much should be allowed for rock and loose rock?—A. Yes.

Q. By the way, the proportion of loose rock—what do you allow as loose rock?—A. Any material that can be moved by hand, pick or bar; that is according to the loose rock classification.

Q. Containing or not containing boulders less than one cubic yard. Boulders of one cubic foot and upwards, up to one cubic yard?—A. Yes.

Q. Or did you have indurated clay or sand and gravel, or did it all contain boulders?—A. All boulders.

Q. Or did you have indurated clay or sand and gravel, or did it contain all

By Mr. Clarke:

Q. Under a foot. What was it, stone under a foot?—A. From a foot to a cubic yard.

Q. What would you class it under a foot, stone that is under a foot?—A. Well, under a foot, it would hardly come under the loose rock classification.

Q. You would call that common excavation?—A. Yes.

By Mr. Chrysler:

Q. Common excavation, unless embedded in indurated material?—A. Yes, it would all depend on the difficulty of its removal.

Q. In ordinary sand and gravel, and less than a cubic foot in diameter it was common excavation; that is your understanding of it?—A. Yes, sir.

Q. Your whole residency was only 8 miles, I think you said?—A. Nine miles, just about.

Q. How many cuts did you have on your residency, can you tell by looking at the profile. Just count them; it will not take long. Mr. Huestis says, of course, this is only the centre line profile. There may have been some cuttings that would show? —A. Yes.

Q. One or two out either way does not matter. I just wanted to know what proportion of the whole of the cuttings were criticised in this memorandum?—A. There are about 54 cuts. Of course some of those cuts were ledge rock.

Q. 54?—A. Yes.

Q. 10 of these are mentioned in this memorandum. Some of those which are not mentioned you say were rock cuttings?—A. Yes, ledge rock cuttings.

Q. Were there many others containing assembled rock of the 54?—A. Well it was all assembled rock outside of the ledge rock cuts, with the exception of a few. Some were common excavation which were common altogether except a little loose rock; but the majority of the cuts were assembled rock; pretty much the same formation all the way through.

Q. The majority of the 54?—A. Yes.

Q. Wholly or partly?—A. Partly.

By Mr. Clarke:

Q. I suppose some of those cuts would be very shallow?—A. Oh yes, some of them very small. Of course Mr. Lumsden formed his idea of that classification after the work was from nine months to a year and over a year completed. It is very hard for any man at that stage of the game to classify that material.

By Mr. Chrysler:

Q. When was the grading completed on your residency?—A. The last estimate was turned in in September or October, 1909.

Q. September or October, 1909?—A. Yes, 1909.

Q. Was most of the excavation done in June, 1909?—A. No a good deal in 1908, about the most of it.

Q. Previous to June, 1909?—A. In 1908 I think most of the material was taken out.

Q. What difference would that make apart from the dressing of the slopes of which you have spoken?—A. The cuts standing there to-day, the slopes have not been dressed, and the sides stand fairly perpendicular. 1908 was the biggest year; the most of the material was turned out in the year 1908.

Q. The question I asked you first was when the gradings were completed and you said in September or October, 1909?—A. 1909, yes.

Mr. DOUCET.—The track was up there in 1903.

The WITNESS.—No, sir, the track was over in May, 1908.

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Mr. DOUCET.—But the track was up to Vermilion river in the fall of 1908?—A. Mr. Lumsden went up in 1909, and the track was laid right up to Vermilion. We were getting up there in the fall of 1908. I am mixed in the year, then.

By Mr. Chrysler:

Q. This is only 1910. Last year was 1909?—A. Yes, 1909.

Q. Well, what do you say now?—A. I am a year ahead of the time. You see, I took over the residency in May, 1908, and most of that material was moved in the latter part of 1907-8.

Q. And the excavation was completed about when?—A. In about October, 1908.

Q. When you said 1909 that was a mistake?—A. That was a slip of a year.

Q. Look at the stations on the next page, the lower half of page 80.—A. Yes, sir.

Q. Excluding the first three stations in that list, the rest seem to be on your residency?—A. Yes, sir.

Q. But so far as I can observe they appear to be in the main a repetition?—A. Yes, of the cuts we have already gone over.

Q. Of the cuts we have already referred to. Just see if they are?—A. (After examining list of stations). No, there are a few exceptions.

Q. Tell me which are the new ones? Tell me the first one?—A. The first one, I think it is 7,041 to 7,046. Well that is practically all common excavation but there are 150 yards of rock in that which was——

Q. Let us look at 7,041 to 7,046. What are the figures for that division?—A. 150 solid rock, 300 loose rock, 1,050 common excavation.

Q. Was the rock ledge rock at that point?—A. Oh no, it was boulders for which we have measurements.

Q. No ledge rock?—A. No ledge rock. Boulders over a cubic yard.

Q. And the quantity is very small in proportion to the common excavation? At that point there does not seem to have been very much rock?—A. No. It is practically all common excavation.

Q. Can you tell me whether you had—perhaps you have answered the question already—at any of these places the measurements of boulders returned as solid rock? —A. With the exception of these small cuts, such as the one with the 150 yards of solid rock, we have measurements of that solid rock.

Q. It looks as if it was measured boulders?—A. Yes.

Q. Have you any way of telling them?—A. Oh, I know them.

Q. Well, what do you say?—A. These are measured boulders, boulders over a cubic foot measurement.

Q. Well, Mr. Lumsden evidently did not see them?—A. He did not see them.

Q. Why would he not see them?—A. Because they were in the dump.

Q. Would measured boulders measuring over one cubic yard be removed by blasting?—A. Yes.

Q. They would not handle them?—A. We would have to break them up to move them.

Q. They would not haul them out on stone boat?—A. No, they would be so——

Q. Or car?—A. No; not over a cubic yard.

Q. They would be broken up and look like any other shattered rock?—A. Shattered rock.

Q. And go into the dump. This, you will observe, is under the heading of 'Cases in which material returned as loose rock should have been returned as common excavation.' So I want you to see what the loose rock was and why it was allowed?—A. In that cut?

Q. In that cut?—A. We estimated, at least I estimated, that there was about 300 yards of loose rock in that cut.

Q. The common excavation being 1,050 yards?—A. That would be the balance, you see.

Q. That would be the balance? Is there any other point in this group which you have not already referred to?—A. Yes. The next one is this group, 6920 to 6924, borrow: loose rock, 6,000; common excavation, 4,400.

Q. Now, there is no solid rock allowed for there?—A. No.

Q. The loose rock is 6,600 yards and the common excavation 4,400 yards?—A. Yes.

Q. That loose rock is a percentage?—A. It is.

Q. And Mr. Lumsden's comment is: 'All looks like C.E. May have been fifty L.R. South side'?—A. Yes. Of course, he would not see that.

Q. Why?—A. Because it is in the dump.

Q. And he would not see the 6,600 yards?—A. No, sir.

Q. Wouldn't he see the fifty yards? He seems to say here that he did see them. Why was it necessary to make a percentage there of loose rock?—A. That proportion of loose rock which we had to remove we thought it was——

Q. What was the material, it was not indurated clay?—A. Oh, no; just loose boulders under a cubic yard.

Q. And over a cubic foot?—A. Yes.

Q. I don't exactly see how you got at that?—A. You see that was evidently not a final measurement; it was just in round numbers; that was not a final estimate of it at all. I don't remember exactly whether the final measurement is in for that borrow or not. It won't be in these figures.

Q. Do you remember what that cutting was like?—A. Yes.

Q. It is borrow, you observe?—A. It is borrow.

Q. It is not a cutting; I was calling it wrongly a cutting?—A. No, it is not a cutting.

Q. Why should there be loose rock in borrow? Are you not supposed to find common excavation for borrowing?—A. Well, in some cases when there was loose rock we allowed loose rock. It would be cheaper to borrow than to train haul the material.

Q. And you could not get common excavation that would be within a reasonable distance?—A. Well, that was the best material we could get. You see, even allowing that percentage of loose rock, it was cheaper than train hauling the material.

Q. Well, is that all you can tell us about that borrow?—A. Yes.

Q. Are there any other of these points that are new?—A. Yes, that cut 6774 to 6781 is a new cut; at least it has not been mentioned before. It is similar to the other cut, massed material.

Q. That is massed material?—A. Yes.

Q. And this is the classification of the material in the cut?—A. Yes.

Q. Mr. Lumsden says: 'May have 10 R., and say 1,000 L.R., rest C.E.' That, of course, is an estimate?—A. Formed at the time he saw the cut.

Q. And based upon the average of the material which he saw?—A. Of course, he could only see the slopes of the cut.

Q. And based upon the view that it was not massed material at all?—A. I suppose that is what he based his view upon.

Q. Well, what was this material in those of the cuts you have mentioned?—A. All massed material.

Q. Was it cemented together?—A. Yes, sir.

Q. Was it material which required to be moved by continuous blasting?—A. Yes, sir.

Q. Not occasional blasting?—A. Oh, no, continuous.

Q. It was not boulders, or was it? Did it consist of boulders embedded in the material which could be removed with pick or bar?—A. Which could best be removed by blasting; that is, by continuous blasting.

Q. It could be removed by pick or bar, you think?—A. Well, yes; but it would take some time to do it; not expeditiously.

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Q. Not to advantage?—A. No.

Q. Were there variations in the degree of induration of the material in which the boulders were contained?—A. There was very much the same formation all through that part of the country, that whole side hill right along that St. Maurice slope. Where there is no ledge rock, the material in most cases was cemented material, the same class of material right straight through, except in cases where it was all common excavation or ledge rock.

Q. I think you said a little while ago that in some cuttings you had easily removed material along with cemented material in the same cut?—A. Oh, yes.

Q. Did the common excavation overlie the other material?—A. No, it was all mixed together, there were pockets.

Q. Are there any more in that group?—A. There is one at the bottom of the page, 6789 to 6793.

Q. Yes?—A. I do not see that mentioned before. Oh, yes, it is mentioned before. I beg your pardon, we have had that cut already.

Q. Look at the next page at the top.—A. 6815 to 6820?

Q. Yes.—A. We have not had it before.

Q. You have returned 4,127 yards of rock, 4,210 yards of loose rock, and 4,326 yards of common excavation. The note there is 'Say 2 Bds. 5 yds. R.'—A. Two boulders I guess he means there.

Q. Two boulders of five yards. Did you remove two boulders amounting to five yards?—A. I really don't remember.

Q. You do not know how he came to find those two boulders?—A. No.

Q. Well, you were not returning the rock here as being boulder rock or ledge rock?—A. Oh no, as massed material.

Q. And your cross-sections would show that the same as the cross-sections we have looked at?—A. Yes.

Q. And in your judgment it was massed material which should be classified as you have classified it here?—A. Yes, sir.

Q. Then it is the same as the others, that you have mentioned earlier?—A. Exactly.

Q. Well, just look through the list to the end. If there is no new feature about them you need not reply because we have got your evidence already as to the cuts containing massed material.—A. (After examining list). No, there is no difference whatever. They are all massed material cuts.

Q. Now refer to the list of places where the cross-sections showing ledge rock were erroneous. You will find it at the bottom of page 81. Now, that list does not contain any stations in your residency, I think.—A. No. There are none on my residency.

Q. Was any question of the kind raised with regard to your residency?—A. No. There is no overbreak on residency 28.

Q. No overbreak? Well, these were places where ledge rock was not properly shown on the cross-sections. However, it is the same thing. Then the details follow as to District 'B' and of course those are the same stations over again at page 82, There are none of those on your residency?—A. None mentioned on my residency, no, sir.

Q. Now, as to the illustrations at points where the engineers did not measure rock either by cross-sections or by the measurement of individual pieces to be found at page 73?—A. There are none in my residency.

Q. There are none of those on your residency? Well, that takes us to the end. Now, to shorten the summary of your evidence, you might look through a group of stations set out in Exhibit No. 34 to be found on page 195. They are on your residency?—A. On my residency.

Q. They include all the places that are mentioned in the memorandum that we have been looking at, gathered together and numbered in the order of their occurrence on your residency?—A. Yes.

Q. From what you have told us in your evidence there are no questions as to overbreak, as to ledge rock, improperly shown, or any other question of that sort affecting the estimates upon your residency?—A. No.

Q. Excepting the one question as to how mixed material should be classified?—A. That is all.

Q. And that, I suppose, is a matter of opinion between engineers?—A. Essentially.

Q. If you will look again at Exhibit No. 34 you will see that the date of your commencement there as resident engineer is given as June, 1908 to date. That is correct, is it?—A. That is correct.

Q. There is another gentleman whose name is mentioned just above, Mr. Allan Timbrell. Were you under him?—A. I was instrument man to Mr. Timbrell until the time he was moved and I took over the residency.

Q. You were, I suppose, there as instrument man for Mr. Timbrell from the beginning of the work?—A. From the time the work was started.

Q. And since June, 1908, you have been resident engineer?—A. Yes, sir.

Q. Was your judgment as to the classification derived from your personal knowledge and acquaintance with the work?—A. Yes, sir.

Q. You were there all the time?—A. There all the time. From the time it was opened until it was completed I was on the work.

Q. Did you receive any instructions from any one as to the manner in which you should classify mixed material?—A. No, sir.

Q. Who was your immediate superior?—A. Mr. Bourgeois.

Q. Were your returns made through him?—A. Oh, yes.

Q. Did you have any inspection of your work and classification from the district engineers?—A. Yes.

Q. Which of them?—A. Mr. Doucet.

Q. Were your estimates as made by you accepted in all cases as you made them or were they revised?—A. No, they have not been revised up to the present time, at least not to my knowledge.

Q. So far as you know, your returns containing estimates of the work done—I use the word 'estimate' in a technical sense?—A. Yes, exactly.

Q. It is a progress estimate?—A. It is a progress estimate.

Q. So far as you know they have not been altered or revised by any of the engineers above you?—A. No, sir.

Q. Were you there when Mr. Lumsden made his inspection in June, 1909, as one of the arbitrators?—A. Yes, sir.

Q. Did you take any part in the inspection of your residency?—A. I walked over the line with the arbitrators.

Q. Were you supplied with the cross-sections and statements, the amount returned in each cutting?—A. I had them with me and supplied the arbitrators with them.

Q. Did you give them any other information?—A. No, sir.

Q. Were you asked for any other information?—A. Well, I was questioned on two cuts as to how the classification was arrived at. As far as I remember that was all, only those two cuts.

Q. Was the subject of the method of returning this material ever discussed with Mr. Bourgeois or with Mr. Doucet?—A. Do you mean between Mr. Doucet and myself?

Q. Yes, as to how you were making your estimates, how you were arriving at your figures or whether you were doing it properly?—A. That question was never discussed by me with Mr. Doucet.

Q. Did you have occasion to ask or would you ask for information as to how it would be done?—A. No, sir.

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Q. Were you aware of a circular that was issued by Mr. Lumsden in January, 1908, containing what has been called an interpretation of the classification?—A. I received the circular.

Q. Did you have any classification to do after you received that circular?—A. Yes.

Q. There was work done after that to which the circular would apply?—A. Oh yes.

Q. Did you follow the principles embodied in that circular as you understood them?—A. As closely as I could.

Q. Did it make any change in the practice which you had previously been following?—A. No, sir.

Q. So far as you understood it you had been, previous to January, 1908, classifying in accordance with the interpretation which Mr. Lumsden issued in that month?—A. As closely as I could.

Committee adjourned.

FRIDAY, April 22, 1910.

Committee met at 11 a.m., Mr. Geoffrion presiding.

Examination of Mr. H. B. CRESSMAN continued.

By Mr. Chrysler:

Q. Where is your headquarters?—A. At La Tuque, Quebec.

Q. Then this changed location was constructed on your division, was it—that five-mile loop that has been spoken of?—A. That was not on my residency; it is on that division.

Q. How far is your residency from that five-mile loop?—A. About 15 miles north of it.

Q. You are on the next residency north?—A. On the second one north; north from the loop line.

Q. Is your residency on the St. Maurice River?—A. Residency 28?

Q. Yes?—A. Yes.

Q. Is much of the 9 miles constructed along the river bank?—A. Oh yes, about 8 miles of it along the river bank, between 7 and 8 miles.

Q. Of the 9?—A. Of the 9.

Q. I am not sure that I understand from the evidence on which side of the St. Maurice river that part of the line was finally located; was it on the east of the west side?—A. Residency 28?

Q. Yes?—A. On the west side.

By Mr. Clarke:

Q. Is not the railway on the east side?

By Mr. Chrysler:

Q. Where does it cross?—A. It crosses at La Tuque.

Q. And it does not cross again, does it?—A. Well, it crosses away north. The second crossing is about 8 miles on this side, at Deschenes.

Q. Almost at this end of the district?—A. Yes.

By Mr. Moss:

Q. Mr. Cressman, the classification on your residency was carried on throughout, during the time that you were there, by you, was it?—A. Yes, subject to the approval of the division engineer.

Q. And the district and assistant district engineer, from time to time?—A. Yes.

Q. Are you able to say whether that classification complies throughout with the specifications as interpreted by Mr. Lumsden and as explained to you by your superiors?—A. Yes.

Q. Did you ever receive any instructions to depart in any way from them?—A. No, sir.

Witness discharged.

Mr. CHRYSLER.—I scarcely think it is worth while, at this stage of the session, to delay by taking the evidence of engineers Miller, Bell and Phillips. There is not very much that has been criticised in connection with their work.

Mr. MACDONALD.—What view do you take of that, Mr. Chrysler—that is, of the position of matters in connection with the engineers that were named by Mr. Lumsden before?

Mr. CHRYSLER.—Well, the work upon their divisions had been scarcely criticised. That has nearly all been with reference to the work upon Mr. Richan's division; the exhibit that I put in shows that. The real dispute, apparently, has been with regard to the allowance for massed rock under the heading of solid rock; and that is nearly all in District 'F,' and concurred on Mr. Richan's division. The other matters that were spoken of by Mr. Lumsden at considerable length in his evidence—about the allowance of loose rock, price for clay along the cutting and in borrow pits—was covered by Mr. Poulin's evidence; he was personally aware of it, and took the responsibility of it.

Mr. MACDONALD.—So that you think it is not necessary for us to have any more engineers in order to enable us to arrive at a conclusion?

Mr. CHRYSLER.—We have got evidence as to all the cases, with a variety of cases—first, evidence as to the cases in which frozen material was allowed as loose rock; the assembled material; the question raised by overbreak is almost entirely a question for engineers' judgment and measurement—it has not been effaced by time, as some of the evidence as to the mixed material has been, so that it does not present any difficulty at all; whether it is right or wrong, it can be remedied. The same thing it true of District 'B.' Mr. Cressman has given his own evidence upon the residency in which most of the cuttings were which have been criticised in Mr. Lumsden's evidence; and all agree that that is the only question upon District 'B'—the allowance of mixed material. Mr. Lumsden says so himself.

The CHAIRMAN.—So the only witnesses that you wish to hear now, as I understand you, are Mr. Parent and who else?

Mr. CHRYSLER.—Mr. Lumsden, to be recalled when he has had an opportunity of seeing this evidence extended.

Mr. MACDONALD.—Mr. Chairman, it would be desirable if we could manage to get all the evidence in by Tuesday, if the House is to rise on the 4th of May.

Mr. CHRYSLER.—I should think we ought. Mr. Lumsden might be ready for Tuesday morning.

Mr. SMITH.—I may ask permission to put one or two questions to Mr. Jones, as Secretary in the Office of the Commissioners. It will not take more than five minutes.

Mr. MOSS.—I desire to examine him, too. He was the young man who took the so-called evidence on the arbitration.

The CHAIRMAN.—Do I understand there is nothing more to do this morning?

Mr. CHRYSLER.—I have looked over these returns, and I find there is nothing in

them referring to either District 'B' or 'F,' except the return 42d, which was the answer to an order for the letters relating to the promotion of Mr. McIntosh, and the return contains some correspondence with Mr. Hodgins and Mr. McIntosh, himself.

Mr. MACDONALD.—In regard to McIntosh, Mr. Chrysler, did you look through what evidence we have in the statement of Mr. Lumsden as affected by that at all?

Mr. CHRYSLER.—I was going to suggest that we hold this till Monday, just to look through it in connection with the evidence we have here to see if there is anything new in this. As to the other, one is a list of engineers in this return 42b which may perhaps be of use to the committee. Mr. Panet is going to look over the exhibits. He thinks we have got a similar list already. If not, it can be supplied by the board from the same sources that furnished the return, so that the return is of no moment on that account.

Mr. MACDONALD.—Except it might be a ready way of getting the information.

Mr. CHRYSLER.—It is ready made there, if we find we have not got a convenient list. Then the others relate to the comparison of cost between the estimate at the time the contracts were let and the returns. Mr. Doucet looked at it, and he tells me that in the statement which has been furnished to the committee he has given them substantially the same figures. They may be differently arranged, but the committee has got the same information already. The other two are local matters in New Brunswick.

Mr. MACDONALD.—Yes, there is a question there about extra payment to the contractors.

Mr. CHRYSLER.—One is a case of allowance for rock borrow recommended by the district engineer and the Chief Engineer, and which was afterwards approved of by order in council. It is a question of policy, of course, but there is no question of the propriety of any engineer's conduct with reference to it.

The CHAIRMAN.—I might perhaps say now that it is the desire of the committee that you, Mr. Chrysler, Mr. Smith and Mr. Moss, should prepare a memorandum of your views in the form of a factum to be given to the committee for our use in the case. I might tell you now so that you can prepare it, in the form of a factum as short and concise as you can, and so that we can have it as soon as possible after the case is over. The evidence is long and full of detail.

Mr. CLARKE.—As to the date, if Mr. Parent and Mr. Jones will only occupy a few minutes, why not let it go until Tuesday.

Mr. MACDONALD.—It would be more of a cleaning-up day of things we may have overlooked or things we ought to cover. I should think Tuesday would be the finish.

Mr. CHRYSLER.—I should think so.

The committee adjourned.

TUESDAY, April 26, 1910.

The Committee met at 8.30 p.m., Mr. Geoffrion in the Chair.

Mr. CHARLES JOHN JONES sworn:

By Mr. Moss:

Q. Mr. Jones, what was your position in May and June, 1909?—A. I was secretary to Mr. Lumsden.

Q. You were his private secretary or secretary?—A. Well, I was his private secretary right through from 1904.

Q. Then did you accompany him on the trip of the arbitrators over Districts F and B?—A. Yes.

Q. And when was the suggestion first made that you should take depositions in shorthand?—A. Well, I knew I was going up there to take notes, but I did not know that I was going up there to take evidence, not sworn evidence.

Q. Had you any experience in taking testimony?—A. No, I had never had experience.

Q. And while you were perhaps expert in your work as secretary you did not consider yourself an expert court reporter?—A. Oh no.

Q. You did, as a matter of fact, I understand, take such depositions as were taken on the car?—A. Yes.

Q. During the trip—A. Yes, sir.

Q. I think all the depositions were taken on the car, weren't they?—A. No, some of them were taken in the residencies and one was taken on the boat; they were either taken on the car or on the boat or in the residency.

By Mr. Clarke:

Q. What do you mean by residency?—A. In the camp where the resident engineers lived.

By Mr. Moss:

Q. When were you first told you were to take sworn testimony?—A. Well, the first intimation I had of it was when they called Mr. Richan, at Lost Lake.

Q. And you were instructed to take his depositions?—A. I was instructed.

Q. Are you able to say whether those depositions comprise everything that was said?—A. Well, they are to a certain extent—what I mean to say is that as far as what is there is concerned it is correct, but there was a great deal said which is not down there.

Q. There was a good deal said by the engineers which is not down there?—A. Yes.

Q. In the way of——A. Well, qualifying their answers and——

Q. Explanations?—A. Explanations.

Q. Then how was it you didn't take that down?—A. Well, in a good many cases when I was taking that down, Mr. Schreiber would say, 'Never mind, that is only conversation, don't take it down.'

Q. And that was quite frequent, was it?—A. Well, it happened in a good many cases.

Q. Are you prepared to say that the depositions you actually did take down were exactly what was said?—A. I would not swear to that.

Q. I suppose it was pretty difficult to catch everything that was said?—A. It was pretty difficult, yes.

Q. I suppose you did the best you could, but you were not an expert?—A. I was not an expert.

Q. And you could hardly undertake to swear that the notes which you took were an exact reproduction of what was said?—A. I would not swear.

Witness discharged.

Mr. GORDON GRANT, recalled.

By Mr. Macdonald:

Q. Mr. Grant, the Grand Trunk Railway have maintained inspecting engineers on each one of the districts?—A. Yes.

Q. District B and District F, how many inspecting engineers are there at work there?—A. One on each district.

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Q. One?—A. Formerly there were two on them.

Q. And how is it in District A?—A. One in A.

Q. And the duty of making the examinations on the basis of which some of these objections to classification were made rests upon one man, apparently, as far as they are concerned?—A. It rests upon one man making visits now and again.

Q. From time to time. Of course, necessarily he could not do anything more than make an occasional visit over the whole district?—A. That is all.

Q. Have you ever pointed out to the Grand Trunk Pacific people the desirability of having more frequent visits and a closer inspection?—A. I have had occasion to write to Mr. Woods asking that his representatives make more frequent visits to the work.

Q. Have you any copies of any letters that you have written him on that subject?—A. I wrote him on March 31 after having had an interview with Mr. Chamberlin on that matter.

Q. What year was that?—A. This year. I pointed out to Mr. Chamberlin that in my opinion his men did not go over the work often enough, sometimes it would be six or seven months between visits, and in that case many cuts would be opened up and finished before they had ever seen them.

Q. And, therefore, objections to classification could not be made with very much intelligence?—A. They could not see the character of the work as well then as if they had seen it during the time the cuts were being taken out.

Q. What was that letter you wrote to Mr. Woods, you might read it?—A. This is the letter I wrote (reads):

March 31, 1910.

H. A. Woods, Esq.,
Assistant Chief Engineer, G.T.P. Ry.,
Montreal, P.Q.

Dear Sir,—In conversation with Mr. Chamberlin on the 29th inst., I informed him that I would like if your district engineers would go over the work at more frequent intervals, as they would then be in a better position to know the character of the material being moved than if they only saw it once in six months, as, in some cases, cuts must be entirely completed without their having once seen them while being excavated, which is most unfair to our engineers and contractors, and, in the case of Mr. Heaman, unfair to him, as I understand he is being employed on work west of Winnipeg which prevents him going over our work with our district or inspecting engineers.

Yours truly,
Gordon Grant,
Chief Engineer.

Mr. Heaman is the Grand Trunk Pacific district engineer on District F.

Q. I see, and he has been absent for some time, has he?—A. He has not, that I know of, been on the work since last November.

By the Chairman:

Q. Did you have any answer to that letter?—A. Yes, Mr. Woods wrote me in answer to this letter saying he would instruct his engineers to go over the work more frequently.

By Mr. Macdonald:

Q. I suppose that the fact of these visits of the inspecting engineers being only occasional has given rise to a good deal of the misunderstanding regarding classification, has it?—A. It certainly has, because they could not possibly know as well as our own engineers what has been taken out of a cut that they never saw.

Q. And no doubt, as you say, they have made objections just simply for the purpose of saving themselves and not merely because they have knowledge of anything they should have objected to, they were hardly in a position to have it?—A. Well, sometimes they would make objections, of course, in the past, without consulting our own engineers at all. Now I always have them go over the work with the district engineer or with one of my inspecting engineers to consult with the resident and division engineers; before they used to walk over the line alone and judge of the classification from what they saw on the slopes, and ask no questions from any of the engineers.

Q. I see, nor obtain any information?—A. Obtain no information whatever.

Q. Well, you anticipate that as a result of this request of yours for closer inspection you will have——A. No more trouble.

Q. No more trouble with regard to these disputes as to classification?—A. No.

Q. How long has the construction of section 'A' been going on?—A. Since the spring of 1907.

Q. I see, that is three years ago now?—A. Yes.

Q. Well, when were your objections to the classification in that district first made?—A. With reference to District 'A' they have now the third man——

Q. The third inspecting engineer?—A. Yes. The first man they had not only made no complaints, but congratulated the engineers upon the way in which the work was being done, and the work that he passed and congratulated the engineers on has been objected to by the third man, some two and a half years after it was done. The second man made no complaint, but the third man has put in several complaints on the work which the first two men passed.

Q. So that you had no objections from either the first or the second inspecting engineers, but the third man who came on when?—A. I can't say the exact date.

Q. Last fall, last summer—A. Last summer.

Q. That is two years and a half after the work began?—A. Yes.

Q. You had then no objections from them to the classification in district 'A' until two years and a half afterwards.

Q. That is right is it?—A. Yes.

Q. I pointed out to Mr. Woods that the complaints made by the third man on Residencies 20, 21, 22 and 23 had been passed by his first man two years before, and he promptly said he withdrew them, he made the statement verbally, I have no letter about it.

Q. Those complaints you have referred to would be contained in the return referred to by Mr. Chrysler here the other day, I suppose?—A. Not in the newspaper article.

Q. No, but the return brought down in the House containing the complaints that had been made?—A. Yes.

Q. Those complaints in District 'A' you stated were withdrawn by Mr. Woods when they were made with regard to the classification that had been passed by previous inspectors?—A. Yes, he said that any complaints he had filed with regard to that section of the work he would withdraw.

Q. He has done that since the return was brought down, I suppose?—A. Yes. that was only the other day in conversation.

Q. You were speaking about Mr. Woods withdrawing these questions and classification. Recalling to your mind the disputes that arose at La Tuque, and Mr. Woods' objections to the classification, what do you say was the attitude that he adopted? You remember that there was a statement made that the classification was wrong, and that it had been done purposely under instructions from a superior?—A. Well, I was in the car when that conversation took place and I remember distinctly Mr. Woods withdrawing the statement that he made in that letter that the classification——

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By Mr. Smith:

Q. Of the 7th October?—A. Yes. That the classification had been made by orders from a superior officer. Because I remember distinctly his pointing out to the chairman, with whom he was in conversation at the time, that the statement he made was qualified in his letter; he said that he had been advised, or informed, or something to that effect.

Q. And he found out that was untrue and withdrew it?—A. Yes.

By Mr. Macdonald:

Q. He has never made any suggestion of the kind since he withdrew it, has he? —A. No, never.

Witness discharged.

The CHAIRMAN.—Anything more, Mr. Chrysler, to-night?

Mr. CHRYSLER.—Well, what Mr. Ryan wanted to know was when you would meet again so that he might have ready for you the information which he is asked to produce.

Mr. MACDONALD (to the Clerk).—Mr. Todd, did you telegraph to Mr. Woods?

The CLERK.—To-day I sent him this telegram:—

Committee insist upon immediate attendance not later than noon to-morrow.

Mr. CLARKE.—I think we had better adjourn until two o'clock to-morrow.

Mr. MACDONALD.—What about securing the attendance of Mr. Lumsden?

The CLERK.—Mr. Lumsden is away from home. Mrs. Lumsden is not sure of his address, but gave me the Chateau Frontenac at Quebec and told me if I telegraphed there I might get some information. She added, however, that her husband might be on his way home.

The CHAIRMAN.—Did you telegraph to the Chateau Frontenac?

The CLERK.—I did.

The CHAIRMAN.—Well, I think we have done all we can do to-night.

Committee adjourned until 12 o'clock noon to-morrow.

WEDNESDAY, April 27, 1910.

The committee met at 12 o'clock noon, Mr. Geoffrion in the chair.

Mr. PATRICK EUGENE RYAN, sworn:

By Mr. Chrysler:

Q. You are secretary of the Transcontinental Railway Commission?—A. Yes.

Q. Since when?—A. Since 1st of September, 1904.

Q. And have you, as secretary, a knowledge of the records and the proceedings of the commission?—A. Yes.

Q. Can you tell us when the commission was organized?—A. I have here a certified copy of the order in council appointing the original commissioners.

Q. I do not think we need put it in, just give us the date?—A. It is dated the 20th of August, 1904, appointing Fletcher B. Wade, of Halifax, N.S., Esquire, barrister-at-law; Robert Reid, of London, Ontario, merchant; Alfred Brunet, of Montreal, Quebec, Esquire; and Charles Young, of Winnipeg, Manitoba, grain merchant, commissioners to have charge and control of the construction of the eastern division of the Transcontinental railway; and also Mr. Hugh Lumsden, Chief Engineer for the construction of the eastern division.

Q. Yes, Mr. Lumsden was appointed by the same order in council. When were you appointed?—A. I was appointed on the 1st of September, 1904. The next order in council is dated the 31st of July, 1905, appointing Mr. S. N. Parent in the room and stead of Mr. Wade as chairman, and Mr. McIsaac in the room and stead of Mr. Alfred Brunet.

Q. What is the date of that?—A. 31st of July, 1905.

Q. Have you the date when the contracts were let to Macdonell & O'Brien?—A. Yes.

Q. For the La Tuque part of the line and to McArthur for the——?—A. I think on page 556 of the evidence you will find that.

Q. We have that already, have we?—A. In Exhibit 85 you have there the 21 contracts enumerated with the statement of the progress of the work to December 31, but the dates of the contracts are not given. If you desire the dates of the contracts I will give them.

Q. No, I only want the dates of these two. I think that is No. 10——?—A. Nos. 9 and 10.

Q. 9 and 10, eh?—A. Those contracts were dated May 15, 1906.

Q. Both on the same day?—A. Both on the same day, and McArthur's is also on the same day.

Q. On May 15, 1906. Have you any information as to the settling of the form of contracts and specification, how that was done and when it was done?—A. Yes. I will give an extract from the letter from Mr. M. J. Butler, dated December 20, 1909, addressed to the law clerk of the commission. This is the quotation:—

> The work of preparing the specifications for the eastern division of the National Transcontinental railway was performed by Mr. M. J. Butler, then assisting chief engineer, and Mr. H. A. Woods, acting in the capacity of Chief Engineer for the Grand Trunk Pacific railway. Upon completion, the specifications were approved by Mr. H. D. Lumsden, then Chief Engineer of the National Transcontinental railway, and afterwards by Mr. Collingwood Schreiber, then Chief Engineer of the Department of Railways and Canals, on behalf of the government.

Those are the words of Mr. Butler. The above specifications, approved as stated, were formally approved by the government by order in council, dated 31st May, 1905, and by the Grand Trunk Pacific Railway Company by resolutions of its board of directors, dated August 3, 1905.

Q. Is there anything else you have got which would be of interest in connection with this matter?—A. There has been evidence given before the committee with respect to train haul. It is pointed out that there was not any clause in the original specifications providing for train haul.

Q. When was that provided for?—A. That was inserted in the specifications, and the specifications were approved by resolution of the G.T.P. railway, dated February 7, 1907, and by order in council, dated 14th January, 1907. The clause is number 224x.

Q. And the clause printed there, that is in Exhibit No. 6, is 224x?—A. Yes, clauses 33, 34 and 35 in the specifications, being the clauses governing classification, have never been changed since the start.

Q. But 36a.—A. 36a was put in.

Q. Appearing below, was inserted? When was that change made? 36a is to be found on page 39 of Exhibit 6.—A. 36a was covered by the order in council and resolution which I have just referred to.

Q. The same one that provided for the train haul?—A. Yes.

Q. Somebody told us here that 36a, although it was adopted after the Macdonell and O'Brien contract and the McArthur contract were executed, was made applicable to them by the same order in council. Is that a fact?—A. No.

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Q. Well, do they not form part of those two contracts?—A. No. Not of those two contracts.

Q. That is neither 36a nor 224x?—A. No, neither of them.

Q. They are not part of those contracts?—A. I can give you a resumé of the changes that have been made if you desire it, but those are the only ones that affect the subject matter of this inquiry.

By Mr. Moss:

Q. Was there not an order in council making a substantive agrement with these contractors about train haul?—A. There was an order in council approving of an agreement for train haul but not making that clause retroactive. The agreement which was made with Macdonell and O'Brien, and with McArthur, provided a special price for train haul up to five miles. Over five miles, one cent per cubic yard per mile should be paid; but there are certain conditions in that 224x, such as that the material must be hauled on the Commission's rails, which are not referred to at all in the orders in council.

By Mr. Chrysler:

Q. If the 224x formed part of the contract it would be necessary for a contractor tendering under such contract to name a price for the train haul filling, wouldn't it?—A. Yes. If it was in there, it would be in the schedule and there would be a price named in the contract.

Q. And that would form part of the contract at the price tendered for. But if I understand, what was done in this case, a special agreement was made with each of these contractors with whom contracts were made fixing a price.—A. Yes, because it appeared to have been an oversight.

Witness discharged.

Committee adjourned until 8.30 o'clock p.m.

WEDNESDAY, April 27, 1910.

The committee met at 8.30 p.m., Mr. Geoffrion in the Chair.

Mr. H. A. WOODS sworn:

By Mr. Smith:

Q. You are the assistant chief engineer of the Grand Trunk Pacific Railway Company?—A. Yes, sir.

Q. I understand you have been so for some years?—A. Yes.

Q. When did you begin?—A. In January, 1905.

Q. At all events you held that position in October, 1907?—A. Yes, sir.

Q. You remember writing a letter to Mr. Lumsden which is filed as Exhibit No. 10, found at page 148?—A. Yes, I remember that letter.

Q. I draw your attention specially to two clauses in that letter, Mr. Woods, you say:—

> In fact the specifications had been entirely ignored and an excessive allowance made, not by reason of an error of judgment, but, as I understand, by special instructions from the assistant district engineer.

And in the last paragraph:—

> As before stated these over-classifications are not made through error of judgment nor upon the decision of the resident or division engineers who are

fully acquainted with the character of the work, but by arbitrary orders from their superior.

A. That is the same as the first clause with the exception of the words 'but as I understand.'

Q. And you speak in the first place of instructions from the assistant district engineer and in the other 'by arbitrary orders from their superior.' That related to certain classification on District 'B'?—A. Yes.

Q. Did you have occasion upon acquiring further knowledge to withdraw that statement?—A. I should like, if I am permitted to make that statement, why I made that assertion and the reason which followed later by my withdrawal. The statement was made in good faith upon representations made to me by the resident engineer, Mr. Matthews, I think, in going over the work, and perhaps upon the questions asked him if the classification was considered correct, if he considered the classification correct. A remark was made by himself that 'You know that we don't make the classification.' Naturally the divisional engineer is superior to the resident engineer. The division engineer in this case occupied the same camp as the resident engineer, and when I was informed by Mr. Matthews that 'we don't make the classification,' using the personal pronoun 'we' instead of 'I,' I naturally would consider it was next in authority and my representations were made on that ground.

Q. You suppose he meant the one immediately in superior?—A. Immediately superior to the division engineer, which would naturally be the district engineer.

Q. That was the inference?—A. That was the inference from what I gained from Mr. Matthews.

Q. What he probably meant was resident engineers made the classification?—A. He did not so explain it. On the contrary, he said: 'We don't make the classification.' That is my understanding of it. If neither he nor the resident engineer made the classification, the natural inference would be that the one next in authority made it.

Q. He probably meant that the divisional engineers did not make the classification?—A. That is probably what he meant; he might have.

Q. That would be quite consistent with the idea that the resident engineers made the classification and not the division!?—A. No, I cannot agree with you, because he was a resident engineer himself; if he made the classification he would have said, 'This is my classification.'

By Mr. Macdonald:

Q. No matter what Mr. Matthews meant, Mr. Woods thought he meant something that he found afterwards he did not mean.

By Mr. Smith:

Q. There was evidently some misunderstanding as to meaning?—A. Evidently there was some misunderstanding on the part of myself or Mr. Matthews.

Q. Did you have occasion to have that cleared up?—A. Later we did.

Q. When was that?—A. I cannot give you the exact date, but it was at the time Mr Lumsden and the commission and the assistant district engineers visited the work.

Q. At La Tuque?—A. At La Tuque. At or near La Tuque.

Q. That would be the 25th October?—A. Probably.

Q. On that occasion?—A. On that occasion I think there were three men who had occupied the position of assistant engineer, at that time or prior to that time—Mr. Grant, Mr. Heustis, and I think, Mr. Hervey.

By Mr. Macdonald:

Q. Mr. Hervey had been assistant district engineer?—A. Yes, Mr. Hervey had been assistant district engineer, and on their assertion that they had not given such instruc-

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tions, I said that it was nothing more than justice in fairness to them to withdraw that part of the letter.

Q. Those two statements I have read to you you did withdraw on that occasion? —A. In that way.

Q. I don't think I have anything further to ask, Mr. Woods.

The CHAIRMAN.—Is there anything, Mr. Chrysler.

Mr. CHRYSLER.—No.

The CHAIRMAN.—I think that will be all.

Mr. CHRYSLER.—I wish to add to the record, a letter from Mr. Allan R. Matthews to Mr. Doucet, dated 26th October, 1907, as

EXHIBIT 120.

A. E. DOUCET, Esq.,. QUEBEC, October 26, 1907.
District Engineer,
Quebec.

DEAR SIR,—My interpretation of section 34 of the specification is:

Solid rock includes all rock in ledges, boulders measuring one cubic yard or more and masses of rock cemented together, or any other hard material which must be constantly blasted to be removed, which shall measure one cubic yard or more in the mass, but shall not necessarily measure one cubic yard to each separate piece of rock or other material composing the mass.

My interpretation of section 35 is:

Loose rock includes all material that can be removed by hand, pick, bar or shovel, that cannot be ploughed, though blasting may be occasionally resorted to.

My interpretation of section 36 is:

Common excavation includes all material that can be ploughed ; or in other words, free shovelling material.

The way the classification of Residency No. 26 was arrived at is as follows:— The ledges were measured and the exact amount of ledge rock returned, also all surface boulders measuring one cubic yard or more not included in the cross-sections.

For the three months at the commencement of the work a man was on the line daily doing nothing but measuring the boulders of one cubic yard or more in the cuts and the boulders of one cubic yard or more above the surface of the ground, and not included in the cross-sections.

This gave Mr. Bourgeois and myself data as to the percentage of boulders in each cut, such percentage ranging from 30 per cent to 90 per cent of the yardage done in the different cuts. After that we went over the line and estimated the percentages of the yardages of the different cuts that were taken up by masses of cemented rock or other hard material that required continuous blasting to be removed. I had the boulders measuring less than one cubic yard and not less than one cubic foot measured as to the percentage of boulders included in the loose rock of each cut, and we also estimated the percentage of material that could not be ploughed in each cut, but which could not be included in the solid rock.

All other material was returned as common excavation.

Yours very truly,

ALLAN R. MATTHEWS,
Resident Engineer, Residency 26.

Mr. MACDONALD.—Is Mr. Lumsden here?

Mr. TODD.—Mr. Lumsden is to be home to-night. They said he would telephone but he has not telephoned yet.

Mr. CHRYSLER.—I think some statements should be put in the evidence that Mr. Lumsden has been notified and that he has been out of town ever since.

Mr. MACDONALD.—Yes.

Mr. CHRYSLER.—Mr. Chairman, I desire to say with regard to the recalling of Mr. Lumsden that I wrote him on Saturday to read the evidence that he has given and to attend on Tuesday, the 26th instant, to make any statement that he wishes to in regard to it. The clerk of the committee has also sent a notice to Mr. Lumsden and has telegraphed to him that the information we have is that he is out of town and has been out of town at least since Saturday, that he has not been in town since the notice was sent to him.

Mr. MACDONALD.—You might also state that the clerk made efforts to get in touch with him in order to hear evidence before we close, but he has not been able to do so.

Mr. CHRYSLER.—You have made some efforts in order to get in touch with Mr. Lumsden?

Mr. TODD.—I telegraphed him yesterday at the Chateau Frontenac, Quebec, and there is no reply, and I telephoned yesterday to Mrs. Lumsden and that is the only address she could give me, but she thought he was on his way home.

Mr. CHRYSLER.—You have no advice up to this of his having returned.

Mr. TODD.—They expect him home to-night, but they do not know at what hour.

Mr. MACDONALD.—So far you have not received any answer?

Mr. TODD.—So far I have not received any answer.

Mr. MACDONALD.—Did Mr. Lumsden give you any indication of where you could find him?

Mr. CHRYSLER.—No, I did not know he was out of town till this week.

Mr. MACDONALD.—You are unaware he was going out of town or that he was out of town until you got no answer to your letter?

Mr. CHRYSLER.—Yes.

The CHAIRMAN.—I think the committee will adjourn until Friday morning, but they are desirous of deliberating and will have to ask the gentlemen to withdraw now.

The committee adjourned.


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